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ASSOCIATION
QUARTERLY

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THE NORTH CENTRAL ASSOCIATION QUARTERLY

*The Official Organ of the North Central Association of Colleges
and Secondary Schools*

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THE NORTH CENTRAL ASSOCIATION QUARTERLY

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ASSOCIATION NOTES AND EDITORIAL COMMENTS

THE USAFI CARRIES ON

"THE USAFI has made a tremendous contribution to the education of personnel in the Armed Forces." This is the testimony of many, both within and without the services. Dr. A. J. Brumbaugh, formerly an active member and officer of the North Central Association, now Vice-President of the American Council on Education and Chairman of the War-Navy Committee on the USAFI, and the writer who is secretary of the North Central Association and a member of this special committee, are in agreement that the Institute program should be continued on an undiminished scale.

The fact that the number of individual course offerings has been reduced approximately 25 percent should not be taken as an indication that the program is on its way out. This reduction was made wholly to meet the changing requirements of enlisted personnel within the several branches of our Armed Forces. As Dr. Brumbaugh pointed out, "When Selective Service ceased inducting men last September, the flow of men with college and graduate degrees into the Armed Forces virtually ceased. This change in service personnel was of course reflected in the lessened demand for specific course offerings, particularly on the college level."

The USAFI Committee advised that the curriculum be modified to meet the changing educational demands.

The USAFI has been recognized by the North Central Association and its curricula have been approved and recommended for accreditation by all member institutions within our Association. This Institute was designed at the beginning of the war and still continues to be an agency of both the Army and the Navy, to provide educational opportunities at a nominal one-time enrollment fee for officer and enlisted personnel of the Army, Navy, Marine Corps, and Coast Guard. A wide range of courses—correspondence, self-teaching, and standard text courses—ranging in level from literacy training to the first year of college has been provided. To date total enrollments are in excess of 1,700,000. At present practically 240,000 men and women are actively enrolled and completing courses through the Institute. This represents approximately one in every seven in the Armed Forces.

General C. T. Lanham, Chief of Information and Education Division, War Department Special Staff, has endorsed the USAFI as a primary and major agency that should be continued; in fact, he goes so far as to say that "the Armed Forces Institute is the heart of

the Army Education program." General Lanham believes in and stresses the fact that the morale benefits of the Institute program and the attendant reduction of disciplinary problems in the areas where the program is proving most popular is noteworthy. He shares with the members of the War-Navy Committee the belief that the program is consistent with the desire of the American people that we continue to offer the individual serviceman every off-duty educational opportunity within reason, both to improve his mental outlook and to make him a better soldier and better citizen.

It should be noted that the educational facilities are of particular importance for personnel at sea. Commander W. H. Johnsen, Officer in Charge, Educational Services Section, U. S. Navy, pointed out that the Navy has actively sponsored a complete USAFI program both on ships and at shore stations around the world. Commander Johnsen feels that USAFI materials now being utilized by Navy personnel are a very desirable means for building morale and relieving the monotony of Antarctic operations.

We trust that all member institutions of the North Central Association, both secondary and higher, will continue to show an interest in the activities of the USAFI.

GEORGE W. ROSENLOF
Secretary of the Association

RECENT ACTIVITIES OF THE COMMISSION ON RESEARCH AND SERVICE

Periodically a report of the Commission on Research and Service is published in the QUARTERLY to acquaint the members of the Association with the work which is being conducted by the various committees of the Commission. Since the last pub-

lished report,¹ there has been a number of significant contributions made by the various committees and subcommittees in an attempt to provide pertinent information of value to member schools and colleges.

The work of the Commission which is planned and directed by a Steering Committee is conducted by three major committees; namely, Committee on Experimental Units, Committee on Teacher Education, and the Committee on Fundamentals. Each committee has a number of subcommittees at work on special problems or projects for such periods of time as are necessary to complete the proposed studies. The Steering Committee during the past two years has had the major purpose of the Commission constantly in mind as it charted the work of the various committees; namely, that of conducting and directing studies which would be of service to Association members in meeting some of their pertinent educational problems.

The Committee on Experimental Units

For a number of years, the Committee has been convinced that "there is no better medium for making an immediate effect upon what happens in the classroom than to produce materials that the classroom teacher can put in the hands of pupils for the pupils to read."² To put this conviction into practice has been the major work of this Committee for a number of years.

The shortage of paper, publication difficulties, and the preoccupation of everyone with war activities halted the

¹ John R. Emens, "The Activities of the Commission on Research and Service as Reflected by the Work of Its Committees," NORTH CENTRAL ASSOCIATION QUARTERLY, XIX (October, 1945), 345-55.

² From Annual Report (1946) of J. Edgar Stonecipher, Chairman of the Committee on Experimental Units.

production and publication of new units during the war. Since the last report, two new units, "Latin America" (1943) and "Conservation" (1944) have received considerable favor as shown by their sales. It seems advisable to report at this time that the sales record for the ten units which have been produced by the Committee totals more than 140,000 copies. A summary of the sales report is as follows:

subcommittee on Mathematics. The most recently approved unit study to receive the attention of the committee is "Free Enterprise and Its Competitors."

The Committee has printed and distributed to all secondary school members a pamphlet, "The Study of American Problems Through the Use of the Unit Studies of the North Central Association," which should be ex-

SALE OF UNIT BOOKS TO OCTOBER 1, 1945

<i>Title</i>	<i>Publication Date</i>	<i>Before Nov. 1, 1944</i>	<i>Nov. 1, 1944 to Oct. 1, 1945</i>	<i>Total</i>
Civil Service.....	1939	18,284	172	18,456
Why Taxes?.....	1939	20,358	442	20,800
Democracy and Its Competitors.....	1940	40,471	1,254	41,725
Housing in the United States.....	1942	9,446	426	9,872
Defense of Western Hemisphere.....	1941	9,063	318	9,381
Government in Business.....	1942	5,311	938	6,249
In the Service With Uncle Sam.....	1942	12,317	643	12,960
Youth and Jobs.....	1942	4,721	810	5,531
Latin America.....	1943	9,419	1,838	11,257
Conservation.....	1944	2,360	1,736	4,096
		<hr/>	<hr/>	<hr/>
		131,750	8,577	140,327

The Committee is at the present time engaged in revising certain of the earlier units as well as projecting new units for publication. Each unit is being planned so that it will be appropriate, meaningful, attainable, and applicable to the high school pupil. The topics under consideration are indeed timely.

"Aeronautics" has been accepted for publication and should be off the press shortly. Three additional units, "Consumer Chemistry," "Electronics for Senior High School Students" and "Atomic Energy" are being developed by the subcommittee on Science. The Social Studies subcommittee has three units under consideration: "World Geography," "Peace," and "Minorities." Two units, "Stretching the Family Dollar" and "The Nature of Proof" are in the stage of experimental try-out prior to final completion by the

tremely valuable to teachers interested in using the Unit Studies.

Publication difficulties are rapidly diminishing so that the new unit studies which are now under production will soon be available to member schools.

The Committee on Teacher Education

In 1945, the title of this Committee was changed from the "Committee on Preparation of Secondary School Teachers" to "Committee on Teacher Education" primarily to enable the Commission to delegate to the Committee other studies in teacher education than those limited to the field of secondary education. The Committee consists of a Directing Committee whose sole function is to coordinate the work of the three subcommittees; namely, the Committee on Preparation of Teachers by College of Liberal Arts,

the Committee on Teacher Personnel, and the Committee on In-Service Education.

The educational interests served by the North Central Association are deeply indebted to the subcommittee on Preparation of Teachers by Colleges of Liberal Arts for its most significant contribution to the improvement of teacher education. Schools and colleges have shared in the cooperative studies, workshops, and conferences which have been sponsored through the efforts of this committee. The Chairman of the Committee reported in March, 1946, "In the early stages of the study, prior to wartime transportation conditions, approximately 1,800 faculty members, deans, registrars, and presidents had attended sixteen conferences. Approximately 80 percent of the attendants were subject matter teachers dealing with problems of teacher education broadly conceived to include the total teaching of the college." This work is continuing in 1946-1947. The report of this committee, "Better Colleges—Better Teachers," has been so well received that three printings have been required to satisfy the demand.

President H. M. Gage, who succeeded Dean George A. Works as Chairman in 1942, resigned in 1946, and was succeeded in the chairmanship by Dr. Russell M. Cooper, former secretary of the committee.

The cooperative study of teacher education sponsored by the Committee has seventy-three colleges as members of the cooperating group. Each college annually contributes \$100 to the work of the committee. The services of three coordinators have been secured on a part-time basis to visit the various cooperating institutions and to assist in developing local projects designed to improve practices and procedures in teacher education.

During 1946, the committee spon-

sored week-end conferences on "The Improvement of Instruction" at Macalester College, Indiana Central College, and Marymount College. Workshops were held in the summers of 1945 and 1946 at the University of Minnesota and Chicago University for representatives of each of the cooperating colleges.

Approximately fifty representatives, representing thirty academic fields of interest, attended each workshop. Through lectures, informal discussions, and individual projects, the representatives dealt with current trends and needs of higher education and developed plans for new studies and experiments to be introduced into their respective colleges the following year.

In addition, the Committee has continued the publication of the "News-Bulletin," a monthly news letter designed to coordinate the work among the seventy-three coordinating colleges. Packets of materials which contain items from various campuses, course syllabi, new types of examinations, arrangement of personnel programs, new questionnaires, and similar working documents which various faculties have prepared are circulated each month to the colleges in the study.

The organization of the Kansas Council for Teacher Education as an outgrowth of the conference held at Marymount College holds great promise for closer collaboration of all educational agencies in the future and is indicative of the influence being exerted by the Committee on Preparation of Teachers by Colleges of Liberal Arts.

For the past several years, the subcommittee on Teacher Personnel has made two important surveys each year; one, "The Supply of and Demand for Teachers" and the other, "Reciprocity in Teacher Certification." The first of these for 1946 was confined to one

question: What is the supply and from whence may it be expected to come? A summary of the answers to this question from fourteen states to show trends from 1941 to 1946 is as follows:¹

Type of Preparation Completed by Student	Number of Students Completing Preparation			
	1941	1944	1945	1946
Elementary....	10,182	5,002	4,190	3,757
High School....	9,327	4,546	4,187	4,954
GRAND TOTAL	19,509	9,548	8,377	8,711

Because of the critical status of the problem of teacher supply, it seems only fitting that the conclusions of the study reported by the Committee in March, 1946, be included in this report.

Conclusions

1. The available supply of elementary teachers will be definitely less for the 1946-47 school year than at any time during the war. This applies not only to those who have completed the full 120-hour curriculum but also to those who have completed authorized programs of 90 hours, 60 hours, or 30 hours. In particular the diminished supply of 60-hour trained elementary teachers is striking.

2. There is no available evidence that the trend has turned upward in the number of women pursuing elementary programs in colleges. It seems extremely doubtful, therefore, that beginning relief from the shortage can be anticipated under two, three, or four years, depending on the standards among the states.

3. While the anticipated supply of qualified high school teachers is slightly greater for 1946-47 than was the supply for 1945-46, the increase is nominal.

¹ Reported for the Committee, March, 1946, by Roy C. Maul, Registrar and Placement Officer, State Teachers College, Emporia, Kansas.

4. It is yet too early to predict the influence of returning veterans upon the total teacher supply. Without doubt many men who taught before entering the armed forces will become candidates for positions next September, but the present uncertainty of veterans does not make possible any definite predictions. Moreover, the teaching fields to be influenced by returning veterans are definitely limited.

5. There is no available evidence that the trend has turned upward in the number of college students pursuing programs of preparation for high school teaching. This assumption seems sound despite the sensational increases in college enrollments during the past two months. Such evidence as is available seems to point to the choice of other professions rather than teaching by a very large majority of new college enrollees.

6. Later studies will be necessary to determine the extent to which relief may be anticipated and the earliest possible dates for such relief as a result of increased college enrollments.

7. It is yet too early to predict the influence of former war industry workers upon next year's teacher supply. To date no considerable number of such persons who held standard certificates before entering the field have shown a desire to return to teaching.

8. The emergency certificate holder continues to increase both in numbers and in percentage, particularly at the elementary level. It is yet too early to anticipate immediate relief from the necessity of employing many teachers who cannot qualify for standard certificates.

9. It is gratifying to note that the spirit of North Central Association standards is being rigidly maintained. In no instance is a non-qualified person granted more than an emergency certificate and strict provision is made for

the automatic expiration of such non-standard certificates.

10. Teacher mortality continues to influence, in vital manner, the effectiveness of classroom service. Accurate data are not available as to the number of persons who leave the profession or who shift from state to state, but it is beyond assumption that the high percentage of turnover is a powerful deterrent to effective instruction.

11. It is increasingly apparent that more and more citizens of America are becoming aware of the importance of the well prepared teacher in the classroom. While salary increases have probably been consistent with the increases in many other occupations, teaching continues to invite only a small percentage of superior youth. Perhaps the outstanding problem of the immediate future is the recruitment of such youth to enter programs of specific preparation for teaching.

12. The study has not revealed any sensational new techniques in recruitment. Diverse efforts are being made throughout the twenty-state region, however, and further study of the techniques of recruitment seems desirable.

From information furnished the committee by eighteen State Certification Officers in the North Central territory, the following comments were reported by the committee at the annual meeting of the commission in March, 1946:

Comments

From information furnished in the replies:

1. No appreciable change has occurred in the North Central Association states in reciprocity provisions since the subcommittee last published a report on these provisions.

2. Several states indicated that the discontinuance of war emergency provisions is imminent.

3. The number of teachers leaving the profession and retiring is still abnormally large and there was little reported to show that the condition is returning to normal.

4. There appears to be a movement developing to return to actual certificate reciprocity among some states in the area.¹ The subcommittee has assumed in its studies that this is not so much desired as reciprocity in preparation.

Regional meetings as an in-service activity to acquaint the membership of the North Central Association of Colleges and Secondary Schools with the work of the various commissions and committees has been one of the responsibilities of the subcommittee on In-Service Education. Three such meetings were held prior to the transportation difficulties during the war years as follows: Kansas City, 1941; Minneapolis, 1942; and Huntington, West Virginia, 1944.

The Committee has given serious consideration to the continuance of these regional meetings. However, travel difficulties, hotel accommodations, and limitations of the budget have not been such that a 1946 meeting could be planned. Favorable comments received from various member institutions indicate that regional meetings are desirable as soon as the details can be worked out.

During the past year, the major project of this subcommittee was the publication of the pamphlet, "Improving Intergroup Relations in School and Community Life," copies of which have been sent to each member institution. Many favorable comments have been received on this most timely contribution.

¹ Nebraska reported a movement to work out a plan of reciprocity of certification among Minnesota, Iowa, Kansas, Missouri, Nebraska, North Dakota, South Dakota and Illinois.

The Committee on Fundamentals

In the spring of 1943, the Executive Committee authorized the formation of the Committee on Fundamentals because of certain criticisms of the teaching of fundamentals made against secondary schools, particularly by military and naval officers. At that time four subcommittees were established: Pre-Induction Courses, Reading, Physical Fitness, and Mathematics.

The Executive Committee authorized the Committee on Fundamentals to send out a questionnaire in connection with the 1944-45 Annual Report forms in order to secure pertinent information related to the work of the various subcommittees.

The tabulation of the replies of the questions on health and physical fitness revealed that:

1. Of the 2,270 schools reporting, 1,681 (74 percent) do have planned programs of health and physical fitness that provide adequately for the continuous growth of each pupil in strength and physical skills throughout the junior and senior high school grades.

2. Of the 2,270 schools reporting, 2,006 (88.3 percent) do conduct the physical education classes to provide a maximum number of minutes of actual physical activity for each pupil during the class period.

3. Of the 2,270 schools reporting, 1,136 (50.1 percent) do measure and record the results of individual participation and improvement as the pupil acquires proficiency in physical fitness.

These results would seem to indicate that (1) approximately three out of every four schools have adequate programs; (2) that nearly nine out of every ten schools conduct their physical education classes in such a way that each pupil in the class is engaged in physical activity during all of the class period; (3) that only five out of every

ten schools actually measure and record the progress or improvement of the pupil in physical fitness.

Stated in a different manner, there are 589 schools that do not have an adequate health and physical fitness program; 264 schools that do not utilize to the maximum degree the class period in physical education; 1,132 schools do not measure the growth, improvement, or development of the pupils which results from the activities of the class periods spent in physical education.

"Yes" was the response to the question, "Do you determine which of your students have deficiencies in reading and then do something about it?" given by 1,342 (59.1 percent) of the 2,270 schools responding.

Remedial reading programs of various types were reported by 1,174 schools. This indicates a definite attempt on the part of a large number of schools to meet the needs in this fundamental area. However, forty percent of the schools reported that nothing is being done to remove deficiencies in reading.

"Yes" was the response to the question, "Do you determine which of your students have deficiencies in arithmetic and then do something about it?" given by 1,253 (55.2 percent) of the 2,270 schools responding. Remedial or refresher courses were reported by 509 schools who replied "Yes" to the question. All but 264 schools who replied "Yes" indicated that individual or special attention, homogeneous grouping, or some other technique was used to improve pupil performance in the fundamentals of arithmetic. However, it may be noted that 45 percent of the schools replied "No" to the question.

The subcommittees have used the responses to the questionnaire as background material in the preparation of their reports.

The subcommittee on Pre-Induction Courses met with representatives from the War Department and United States Office of Education and published a well received report.¹ The committee was then discharged with thanks.

The subcommittee on Reading published a bulletin entitled, "Attacking Reading Problems in Secondary Schools," which was received with such favor that a second printing was necessary. Copies have been supplied each of the secondary school members of the Association. The Committee on Reading was also discharged with thanks.

Because of the excellent reception of the first bulletin on reading, and because most North Central high schools indicated in the questionnaire survey, that they were doing something about the problems of reading, it seemed desirable to locate some of the better practices and describe them for member schools. Consequently, a second subcommittee was established to follow up the work of the first committee. The manuscript for "A Second Attack on Reading Problems in Secondary Schools" has been sent to the Editor of the QUARTERLY and will appear in an early issue.

The first activity of the subcommittee on Physical Fitness was to sponsor a conference on the topic, "The First Emphasis Year on Physical Fitness" in Chicago at the Palmer House on November 25, 1944. "The First Emphasis Year on Physical Fitness" had been initiated under the direction of the Joint Committee of the American Medical Association and the National Council on Physical Fitness. Major General Lewis B. Hershey, Director of Selective Service, presented the challenge facing the schools in the health

and physical fitness area. A. H. Pritzlaff, Director of Physical Education in the Chicago Public Schools, was the second speaker at the conference attended by approximately one hundred principals, superintendents, directors of health and physical education, and representatives of the medical and dental professions.

The final report of the subcommittee on Physical Fitness entitled "Developing the Health Education Program" is an attempt to provide materials of value to schools in developing an adequate program. It appeared in the NORTH CENTRAL ASSOCIATION QUARTERLY for January, 1947.

The report on mathematics prepared by the subcommittee on Mathematics has been approved and the manuscript is in the hands of the Editor of the QUARTERLY for publication in the April, 1947, issue. Both of these last two committees will be discharged upon completion of their reports.

The impact upon the high schools of the educational programs conducted by the various branches of the armed forces caused the Committee on Fundamentals to appoint a subcommittee charged with the responsibility of presenting vital lessons which the public schools might learn from these military programs. The committee, all educators in uniform during the war, made an excellent report which was subsequently printed in the QUARTERLY.² Reprints are available from Secretary G. W. Rosenloff, 103 Administrative Building, University of Nebraska, Lincoln, Nebraska.

The Executive Committee authorized the appointment of two additional committees in June, 1946, one to work

¹ I. M. Rosa, "Pre-Induction Training: Youth Faces War and Peace," NORTH CENTRAL ASSOCIATION QUARTERLY, XVIII (January, 1944), 254-60.

² "What the Schools and Colleges Can Learn from Education in the Armed Forces" Report of Sub-Committee on Education in the Armed Forces, of the Committee on Fundamentals, NORTH CENTRAL ASSOCIATION QUARTERLY, XX (October, 1946), 220-34.

in the guidance field and the other in audio-visual education. The subcommittee on Guidance proposes to develop materials which reflect a two-fold purpose: 1. to present certain basic principles and ideas concerning a high school guidance and counseling program; and 2. to consider the major characteristics of a guidance and counseling program from the standpoint of (a) those which may be classified as essential, and (b) those which may be indicative of an extended program. The preliminary report of the committee will be presented in an early issue of the QUARTERLY.

The Committee on Audio-Visual Education is in the process of preparing its report which will soon appear in the QUARTERLY.

Finally, the Commission on Research and Service wishes to emphasize its service function. It is the hope of the Commission that the work of the various subcommittees which may be appointed from time to time, will through the organization of conferences and workshops, the development of recent studies, the preparation of bulletins, and the publication of reports make a significant contribution to the

educational problems and needs of the member schools of the Association.

P. M. BAIL, *Secretary
Commission on Research and Service*

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Wanted

Additional copies of the QUARTERLY for January, 1947, are badly needed. If those who have no further use for theirs will mail them to this office, they will be gratefully received. They should be addressed to the NORTH CENTRAL ASSOCIATION QUARTERLY, 4012 University High School Building, Ann Arbor, Michigan.

THE RESPONSIBILITIES OF WORLD LEADERSHIP¹

ANDRE MICHALOPOULOS

*Minister Plenipotentiary for Greece, in charge of
Information in America*

I WOULD like to begin by giving you a thought which has been very much in my mind. It is a conviction that we are so wrongly proud of this 20th Century of ours! We seem never to tire of extolling its achievements, of flattering ourselves for the things we have done, for the inventions we have made, for the missiles we hurl, for the contraptions that fly in the air. Engines of progress, no doubt, but also engines of destruction. Have we really any right to be proud of our human achievements? Has this modern civilization of ours anything to show of which it may be justly proud?

I remember when I was a small boy about eleven years old I had the singular privilege of flying with Wilbur Wright, that great inventor. He was in France and I chanced to be there too. It so happened that I was taken up by him on the first day when he took passengers into the air. I was the world's sixth passenger on that first day and I had a world record for passenger flight of four minutes and forty-five seconds. That was an experience for a boy! It was a grand experience, but what impresses me now—I hardly understood his words then—Wilbur Wright said to me, "My boy, I have made a flying instrument which I hope will serve humanity, but I very much fear that in your lifetime it will be so perfected that it will become one of the most destructive instruments that the world

has ever seen." That was in 1908, and how right he was!

What is the meaning of all this? Here you to whom youth has been entrusted, and no doubt judiciously so, are doing your best to enlighten the young men and women who are put in your charge. Whither are you taking them? Whither are we all taking them? That is the question because no doubt invention has made progress, no doubt science is wonderful in its achievement, no doubt the applied sciences, applied to healing, to building, to the effort of peace, have done marvels; but nonetheless, science has resulted in destruction such as was never seen in the world before.

This war from which we emerge has been more terrible in its physical and spiritual effects and more ruthless in its methods and in its lack of any kind of spirituality than any other war in the history of the world.

We talk about the Dark Ages. What darkness is comparable to the darkness that has come over the world in the last five years? It is a repetition of even a more dire and more baleful form of the war that we, the people of my generation, lived through and took part in earlier in the century. What is this human madness?

It is simply that the intelligence of man has progressed, but his spirit has remained stationary for two thousand years. There has been no spiritual progress. That is what is the matter with the world. Something has happened to this little thing we have in the cranium. What is the use of it, and what is the worth of it, and what has

¹ This account is based on stenotype notes of the original address as it was delivered before the Third General Session of the Association March 30, 1946.

it done to us when the skull is stationary and stagnant and when there is no faith? No faith. That is what I regret. I saw it in London when I was there for the United Nations Organization conference.

The United Nations Organization is a fine thing. It is far better than the League of Nations. It can do more things if we use it rightly, and I hope we will. Please don't misinterpret what I am saying to you now as a nonconstructive spirit of despondency because it isn't. I believe the United Nations Organization can be made to work if the nations are willing to make it work. It can establish the peace. The mechanism is there, but faith is lacking. The small-power nations are exhausted by war. A third of the European nations are standing by helpless and hopeless, wondering what the great powers are going to do, and what all this quarrel is about. Well, the quarreling is about power.

We have got to get down to fundamentals to see what we need. What do we need? Peace in the world, no doubt. How do we get it? We have got to look into our hearts and see what our faith is. We shall see of course that there are many faiths in the world, conflicting faiths no doubt. In the political world in which I am, so to speak, almost professionally interested, there are faiths too and we believe in the least obnoxious of the political faiths, the faith in democracy. Democracy in your country is practised as it is practised in no other country in the world. You do have equality of opportunity. Any boy in this country, or girl, provided he or she has the will, energy, and desire to work, can get almost anything. There is the greatest amount of political freedom here, greater than in any other country I know.

Now that is the system of govern-

ment which originated in my country twenty-five hundred years ago, which is practised in a great number of countries in the world, and in which we believe. Therefore, it does seem to me, if we have the western democratic nations believing that the maximum benefit and happiness and prosperity can accrue under this system, that it is our right and our duty in the name of countless numbers of citizens not to go to war every twenty years lest we be destroyed.

It is our duty to protect this system, and to make it inviolable. But between making it inviolable and making it aggressive is a great gap. Nobody says that anyone wants to make inviolable those rights in order to interfere with states, areas, or people who for one reason or another do not happen to have come into the democratic fold. Neither is it our particular business to be missionaries of democracy all over the world. But by our own achievement, by proving that democracy carries with it more benefit than any other system, let us be such missionaries.

The United Nations Organization has its prescribed duties and embraces all the free nations that join it, but I will say if only the western democratic nations were united in a very strong bond of cooperation you would get a formula of love. You would get the United States of America, the British Commonwealth of Nations, the South American republics, the western democracies of Europe—a power block. If you have power, you can use power for good. Nothing wrong in that. It is the most moral thing in the world for a country to have power and to work for good. Thus you can make democracy inviolable and generous in the sense that, once it is secure it can see that the goods of the earth flow to all and that other nations who have

power but who have not yet seen the light come to the way of democratic thinking to which we have come and obtain the advantages to which they are justly entitled—but we must first be secure.

The Greek historians of twenty-five centuries ago tell us of the problems that occurred in those days. They were the same problems that occur today; so, despairingly, we haven't solved them.

War is a bad thing, but to submit to the dictation of other states is worse. Freedom, if we hold fast to it, will ultimately restore our losses, but submission will mean permanent loss of all that we have. To those of you who call yourselves men of peace, I say that you are not safe until you have men of action at your side. The democratic responsibility lies with America and Great Britain, chiefly with America. You have emerged from this war as the greatest power in the world, and you have emerged with greatness because greatness is a combination of power and goodness. You are a sound nation and a good nation and a great nation.

Greatness cannot be retained if its responsibilities are let go by. There is a game being played, a political game of poker, a hard game. They know that you have the aces, and they also know that you don't want to play them; so they are winning the game with lesser cards. Bear that in mind.

Now let us see what democratic faith has cost certain people. In my country—I am going to tell you a little about my country but I am not going to enter into the politics of that glorious and unfortunate land. The situation in Greece as formerly the most occupied country in the world is not a political situation; it is pathological instead. It is a situation where extreme misery exists as the result of

starvation and disease and devitalization and total destruction. It has deprived men of that calm atmosphere in which one goes to the polls and chooses one's party, and in which one thinks clearly and accepts government. You must consider this: in the fall of 1940 this small country of 50,000 square miles and of 8,000,000 people was attacked by a nation seven times its size which was backed by the strongest military empire in the world. At the moment when Britain was defeated at Dunkirk and the whole of the European continent was in the hands of Nazi power, that little country stood for itself, stood for the freedom that it has fought for for hundreds and hundreds of years, and for which it has suffered more than any other people because we have been the victims of nine barbaric invasions in the course of our history. Here the enemy was again. The nation stood up. It fought almost with sticks and stones to use the phrase of Herodotus. But the Italians did not get in. They were beaten back by six months of hard fighting. They were driven right back into the interior of Albania against the shores of the Adriatic, until the Germans had to come to their assistance. The Germans came with a vengeance. They came with organization. They came with metal and steel and modern inventions. They rained fire and brimstone upon us and they destroyed our villages. They sapped our youth. They caused the race to rot. The German general said, "This nation has had the impertinence to resist the right of might!" They were vengeful. We had upset strategic plans. The course of the war in the East was changed by the delay. Russia was saved because Hitler had to put his troops back from the 15th of May to the 22nd of June and when he got to the gates of Moscow winter was there

before him and caught the Germans in their summer uniforms in the middle of a Russian winter. Those German armies were disseminated because we unexpectedly stood up and changed the time table by seven months.

The Germans were vengful. Their general said, "Those of you who have been rich up to the present shall become poor, and the poor shall starve." That was his message of mercy. That is how they are, those Teutons.

What happened was that 900,000 people out of 8,000,000 have died of starvation and 2,500,000 are still suffering from the results of disease. The future generation will not be a happy one. The economy of the country is being overthrown so that we have inflation and little or no production. Relief is helping but the devastation is tremendous. Little wonder there is political confusion and will be for some time.

Now perhaps you begin to understand what I mean when I say there is little we have to be proud of in this 20th century—after all, the barbaric Germans with all their lustful, disgusting customs are human, I suppose. When we reflect on the depth to which humanity has come, what little light there seems to be! Where are the ideals? Where are the noble words? I

should like to hear the leaders of the world speak up with the flaming language of the men of older times. Perhaps it is not my right or it is not appropriate to give advice, but I should like to see education going back, not looking forward with the dissecting eye of specialization, but going back to the only form of common education. I don't mean to say you need bury yourselves in the study of antiquity, but surely antiquity has something to offer, not so much its study as its method. There is something in practising virtue. Although ancient Greeks talked about virtue they were not smug. To them virtue was a well-balanced use of all the human faculties, the moral, mental, and physical. Virtue is a thing to be tried and taught. There must be faith in the world. There is, believe me, little power even in the concentrated might of all the human crania of all the generations. Ours is a small planet in a small solar system, a speck of dust in the heavens. What is the purpose? The purposes of the world, of men and of beasts are the purposes of God and if we do not return to a humble belief in God, there will be no health in us, for there is no health whatever in the world of today. That is my message. Of despair? I think not. I think you will agree it is a message of hope!

EDUCATION AND INTERRACIAL APPRECIATION¹

MORDECAI W. JOHNSON

Howard University, Washington, D. C.

I WANT to bring you the greetings of that large number of teachers and administrators in the segregated schools of the South who are engaged in educating Negro youth and who have had the privilege of studying in the institutions of the North and West represented by your Association. If all of them could be present here today, I am sure that they would join me in expressing to you and to your institutions a deep sense of gratitude for the services which you have rendered to them and through them to their cause.

When we came to your institutions as I did in my young manhood at the University of Chicago, we met for the first time in our lives a considerable body of representatives of the majority race in this country who were free from condescending reservations in relation to us and were conducting their lives and their thought in unequivocal fidelity to democratic principles.

You cannot know what it meant to come up out of our segregated world and to live for so limited a time in association with such leadership. We are grateful to you also because when we came we found a high quality of educational experience which was not available to us in the segregated institutions in which we were trained, which enabled us to lift our mental horizons way above that to which we were accustomed, and to acquire habits of thought and substance of thought never before available and

which could not be available in the areas of our limited opportunity. We are grateful to you also because we found that your unprejudiced admittance of the individual to your institutions, regardless of race or color, allowed us to live in direct contact with men and women of our own age from all elements of the majority and thus be tested as to whether we had good minds.

I cannot tell you what a thrill came to me some years ago when Professor F.W. Robinson, at the University of Chicago, insisted on putting me in English IV rather than English I when I came out of the South. After putting me to rigorous tests he found that I was able to be in English IV. That was the first time that I discovered that a mind is just a mind, not a Negro mind or a white mind, and it thrilled me to be able to be in a school which let me know that I could be among human beings in the fourth degree of development in anything.

We express our indebtedness to you also for the knowledge that, although we are away down in a segregated system operating far below all normal levels of efficiency, you haven't forgotten us, that you are there, interested in what we are doing, willing to come down when we call you to criticize our work and to give us counsel of the kind that we can trust, counsel that points out our weaknesses and yet does so with the fullest belief in our highest possibilities. I know that my associates who have had this experience would want me to thank you and to express our continuing gratitude to you.

¹ Delivered before the First General Session of the Association in Chicago, March 29, 1946. This report is based upon a stenotype record of President Johnson's address.

When I gave you my subject for today, "Education and Interracial Appreciation," I intended to devote the whole of my time to crossing all racial lines to ascertain common, interesting, and great human qualities that would fortify your belief in the possibility of an orchestration of human life exclusive of differences in race, language, religion, and all forms of culture; but as I began to reflect upon this unusual opportunity, I felt that if I did that, I would fail to communicate to you a sense of crisis which I feel in relation to race relations in this country. I feel it is my duty to bring to you, even though it should push my first intention to a very subordinate part of my address, "race relations" instead of "interracial appreciation." I therefore ask you to allow me to focus attention primarily upon race relations in the United States, and wholly upon race relations between Negro and white people in the Southern states. I feel that interracial relations have come to such a crisis as we experienced in 1861 and that they require that vigor of attention which Abraham Lincoln was able to arouse in us then.

In the first place, let me ask you not to allow yourselves to be subject to the illusion that all problems of race relations in the United States are of the same caliber and belong in the same category. I am interested in Jewish-white, Mexican-white, and Mexican-Negro relations. I wish to communicate to you my conviction that the most important and challenging and dangerous set of human relations in this country today are those between the Negroes and the whites in the Southern states for this simple reason: there have developed around these relationships not merely certain abnormal individual habits of conduct, but also a structural disease in the

body of democracy and in the will of democracy.

I could spend an hour pointing out to you a dozen ways in which Negro-white relations in this country have improved within the last five years. But I would greatly mislead you if I should make that speech in such a way as to obscure a deep and necessary pessimism which I would want to communicate to you at this time. This pessimism grows out of my conviction that the progress which we have made has not been sufficient in any substantial degree to alter this structural disease in the body and faith of democracy which we have suffered for three hundred years and to communicate to you my conviction that this structural disease is now moving to a crisis, in fact is already a crisis, and is capable of determining in a negative way both our domestic and foreign relations in the decade before us.

Now what do I mean by "structural disease"? I could point it out in the field of economics, or of education, but I go at once to the field which most deeply concerns us Americans. I want to emphasize a fact which must be startling for you to realize; namely, that at this very moment we, the United States of America, the chief representative of the democratic tradition and spirit, find ourselves face to face with a world challenge from Asia. This challenge is to the effect that our democracy is merely a formula and cannot be finally effective in the advancement of freedom because one-third of the entire population of the United States, by reason of abnormal race relations, is living under conditions in which democracy does not now prevail, has not prevailed in 350 years, and in which there is no present intention to have it prevail!

You know, for example, that prac-

tically all of the Negroes in the United States south of the Mason-Dixon Line are disfranchised, that not more than three hundred thousand vote, but do you know also that the same measures that have disfranchised these Negroes have effectively disfranchised three-fourths of the entire population? At no time since the Civil War has there ever been a national election, to say nothing of a state election, in which more than 25 percent of the population of these states voted. There is no two-party system in that area, no preliminary and open discussion of public issues. Therefore, no candidate for the presidency of the United States ever feels under any obligations to go into that area to explain to the people why they should vote for him! Now, why is that true? Because he knows there is no use in going down there. The boys and girls, white and black, either voted for him or against him before they were born and they have no way to change it now!

Here is an area in which the very thing that we stand for is not in existence; and the faith to bring it into existence does not exist in the area. In spite of the wide prevalence of Christianity and Judaism, Catholicism and Protestantism, the unbroken and all but uniform tradition of the entire community is to treat the Negro with condescension and contempt, to deny to all Negro women, including the most noble, Christian mothers, the title of "Miss" or "Mrs." and by a variety of overt indications to which the Christians themselves are not an exception, to give the Negro people as individuals multitudinous signs that they do not belong in the same human categories as other people.

This attitude penetrates the entire system. It is the frank policy of the area to consign Negroes to menial domestic and agricultural employment

and see to it with great care that they do not move into skilled and semi-skilled employment. It is the further policy of the area to segregate Negroes into a separate and inferior system of education. There are states in the South in which the average per capita expenditure for the white child is seven times as great as that for the Negro child. In one state, for example, the average expenditure on twenty-three Negro children per classroom per year is \$100 for all expenses, including the teacher's salary and school repairs, as contrasted with over \$2,100 in the North and West, and an average of \$1,100 for the white people in the South. And yet, within the last four or five years, the United States of America has reached into the homes of the Negro mothers and fathers who sent those children to the \$100-a-year school, and told them "Democracy is too precious; you must pick out and give us your child to risk his life and die." We have seen him do so and come back; we are sitting here content; and the white boy is going back to an average classroom in New York with \$4,000 a year spent on it, while the black boy is going back to Mississippi with \$100 a year spent on his classroom.

Here is the structural disease in democracy. The danger of that disease is not clear to you until you realize that, in spite of our constitutional provisions to the contrary, every one of those states is represented in Congress by men of acumen and political strength and power; and by reason of the very disease in the political structure, they stay there until they reach old age and inherit all the major committee chairmanships in Congress so that today—it is no criticism of them as persons—at the very moment when democracy is on trial as never before in this world, every major

committee in the Congress of the United States is under the chairmanship of a man who comes from a state in which democracy has neither existed nor been tried and in which there is no intention to try it.

We are getting along in this country with a fair degree of equanimity in the presence of this problem, and we have allowed the segregated institutions which have grown out of this diseased condition to penetrate into the North to modify our residence structure as well as our religious structure with the entire Christian world, Catholic and Protestant, operating within an aura of concern which defies this presence. They have accepted the disease of a segregated system as the norm of their life. I say we exercise a certain leisure in relation to it because we think we have it substantially isolated and that in time we will cure it. It is this illusion of time that I would like to dissipate today. That illusion is based on a theory of disease which every first-class doctor could repudiate. I can bring it to you no more clearly than to show you what recently happened to my noblest and ablest friend.

Charles Hubert, that great minister of the gospel, trained in the South and in the North, a man of intellectual power and integrity, came to Freedmen's Hospital in Washington. He submitted to three men who had been his pupils, all of whom now are skilled doctors and certified as experts. He had a hard growth in his side which no doctor up to that time had been able to move and he said to me, "John, you don't know how good I feel. I am going to lie down in Freedmen's Hospital under the care of three men who are supremely great doctors, every one of whom has been my pupil and loves me and would do anything short of giving up his own life—he might even

do that—to save mine. I know that I have got a chance to live and these boys will bring me out." And so they went to work on him with that love which he expected. They decided to dissipate the growth by the use of x-rays and internal medicine. In less than three weeks they had softened the growth and had begun to reduce its size. I saw Charles Hubert and shook his hand. He knew he was getting well, but he did not tell those doctors that ten years ago he had what he called then a slight heart attack. The doctors at that time had minimized it. He had recovered, and no symptoms had recurred. When the powerful x-ray began to dispel this growth, that limited and hitherto isolated heart condition struck suddenly and in one hour he went down to death from a quarter he did not foresee.

Diseases of society have a way of acting similarly. That was the cry when Abraham Lincoln was a little-known frontier lawyer. He rightly rose to such eminence in this country because he succeeded in making us realize that we had an economic disease which we thought we had confined to the Southern area but which was moving to a crisis that threatened the entire political existence of this nation. As we read history now with hindsight, we can see that he rose at the right moment and saved us from an awful tragedy, one which would have made us helpless in World War II since we would have been dominated by the "cotton system" which would have given us no economic power to defend our civilization.

We are at that place again. If you will look carefully now at the political life in this country, you can see that two diseases are developing simultaneously. One is growing out of the fear of democracy in the Southern

states, and the other out of the fear of Communism in a substantial portion of our population.

Businessmen in this country are divided. There are those who believe that the time has now come when our political democracy must be further implemented by deliberate economic measures designed to raise the level of the life of the common man so that minimum security can be enjoyed by every family. Those men are amenable to a certain amount of cooperation between government and business, to a certain amount of planning, to a certain amount of the penetration of democratic will into the sphere of economics. But there is a large group of businessmen who have been so frightened by the specter of Communism that they are afraid to take these limited measures for fear that the habit of governmental intervention in the sphere of economics would prepare us for a coup d'état by subversive political forces which would sweep us into totalitarianism and thus destroy free enterprise.

In their fear those men are looking for every conceivable form of assistance, not for the establishment of conservative political power but for the establishment of reactionary political power which proposes to stand upon the provision that it opposes governmental participation in economic regulation and planning. If you look at the Congress of the United States today, you can see the formation of a coalition of power, the most dangerous that has arisen in this country since 1861, in which the political representatives of the North say to the fearful political representatives of the South, "We will make a trade with you. We will agree to keep the Negro right where you have him if you will agree to help us keep living right where we have

been, so we see no measures except those designed to restrict the limits of the Negro people." The political representatives of the South have now become the chief proponents of legislation designed to restrict both the growth of labor unions and those safeguards necessary for the fundamental economic advancement of the people. There was a coalition like that in 1861.

Go back into American history and you find that a bill was nearly pushed through Congress by which the United States would have committed itself in perpetual agreement never to interfere with the system of domestic slavery. It was the same coalition. These two fears are capable of reversing the democratic trend of this country. They constitute precisely the two factors that are the leading elements of Fascism—fear of the advance of those who differ from us in race: a determination to stop the growth of economic democracy even if it has to be done by the throttling of the democratic political system, and a determination to stop the growth of equality of economic opportunity for Negroes, even if it means the continuous stagnation of the democratic political system.

These are the two structural elements of Fascism and but for the rising and deliberate cooperation of the liberal forces of this country we shall make that backward step within the decade now before us. There never has been a moment in our national life when the forces were more confused than they are today because that great political instrument which was brought into being by Roosevelt, cooperation by men of both parties, is being broken to pieces. If you had been down in Washington as I have been, you would have seen a confused exodus of high caliber men in econom-

ics and politics, from the government because they have lost hope that it is any longer an instrumentality through which the liberal will may express itself.

I call upon you today, with the same sense of crisis that Abraham Lincoln experienced in 1861, to realize as citizens and educational leaders of the North and West what you must do. You must strive as never before during the political elections now before you, and with a sense of desperation that you haven't felt since the Civil War, to bring into existence a coalition of power stretching across party lines and capable of becoming an effective vehicle of the democratic will devoted to all of the people.

In the second place, I call upon you now in the spirit of Abraham Lincoln to resist by every means in your power the spread of segregated institutions into the area of the North and West, to make an example of your determination in the field of education which you control by receiving the Negro child into your schoolrooms from the kindergarten to the university as an individual human being.

I am happy that I am speaking in a city in which the mayor has faced that issue and made a democratic decision based, no doubt, on the advice and counsel which he has received from the educational leaders of this district. Accordingly, Roosevelt College, which was being confronted with the necessity of schooling Negroes or reducing them to a minimum quota, risked its own existence and determined to admit the children of all the people regardless of quota and to admit them not only as students but as faculty also, and made a Negro vice chairman of the board of trustees.

I say to you that the pioneer influence of that institution confirms and strengthens with heroism all of the

deep elements of greatness that have thus far prevailed in the educational system of the North and West. I hope that you will follow it and in every one of your institutions see how far you can go to make it clear to the Negro child that you see him as an individual; that, if he has the necessary qualifications he will be given the opportunity to teach human beings and be made a member of your board of education; and that you will admit him not as a Negro, but as a human being. He can then share with you the responsibilities of doing a good job with the great democratic system of education.

In the third place, I call upon you, especially in the institutions of higher education, to do as you have never done before in continuing the research and publications that are so essential to enable the democratic spirit to penetrate the Southern states. I want to illustrate it in one area. One of the reasons for the failure of democracy in the Southern states is that the leaders in those states have never at any time since the Civil War awakened on a day when they could know that they had enough decent employment in that entire area to give work at a decent wage to all the people. Why is that? Because we people of the North have never done in the economic sphere what our great leader, Abraham Lincoln, would have wished us to do. When we defeated the South, we destroyed the only economic system that they had, the one-crop cotton slave system. We also destroyed their livestock, and all of their reserve capital, and then we walked away from them and practically told them to go to hell.

We left 390,000 slave-holding families, who were the only families that had ever profited from slavery and the only ones that were skilled in any

respect whatsoever—a skill confined to the one-crop cotton system. We left them with their economic system gone, their livestock killed, and their cattle destroyed even though they suffered the necessity of establishing a free economic system to preserve not only their own lives but those of four and a half million slaves and three and a half million poor whites. Moreover, we have left them to struggle alone with that problem for over eighty years without sitting down nationally, without the great economic leaders and our political leaders of the North and South doing the first elementary thing which we are now doing for Germany and Japan; namely, helping them to construct a free system of economic enterprise composed of industry and diversified agriculture wherein they could employ their people. Because we practically told them to go to hell, they have straggled along so that just before this war there were eight and a half million human beings in the Southern states who were living on less than \$100 per capita cash income per year. They eat corn bread and molasses. They are undernourished, they live in poor hovels with no plumbing, and in a condition which is, to say the least, atrocious for a nation that is capable of \$120,000,000,000 worth of production per year.

The time has come when the intellectual resources of the North and of the West must engage in all of those scientific and technical and social studies which are capable of bringing about in a national way a plan for the economic development of these states which would give their administrators some reasonable hope that if they tried democracy it would work!

If I had time I would enlarge upon this in the field of education and elsewhere, but I know of no duty more

mandatory for the educational institutions of the North and West than that by research they shall lift every element of these human relations to a light as clear as the intellect can make it and suggest recommendations which will command the respect and support of our greatest minds in the fields of economics and politics.

If you are willing, I should like to develop the world relations aspect of this matter. I tell you that the relationship which exists in the Southern states today is a national liability and is capable of destroying confidence in us and of paralyzing our will to do the one great thing that we must do in international relations. What do I mean by that?

For the first time in four hundred years, the world powers dominant over the darker peoples are no longer the colonial powers of Britain, France, Belgium, Holland, Spain, and Portugal. For four hundred years those nations dominated the people of the world and the politics of the world, but by reason of their strife and confusion in this war they have so weakened themselves that when you put all their power together they now constitute a third-rate group.

For the first time, the most powerful nation in the world is the United States of America, which by her own resolution pulled herself out from under the system of imperialism and has thus far resisted the temptation to expand through the domination of the other peoples of the world, those who are looking to us today as to no nation since the foundation of history, to do for them what we have done for ourselves; namely, to offer them political, intellectual, and economic leadership to help them get out from under this damnable system and establish and maintain their freedom as we have done. Colonial powers are not ready to give up, and at this moment their

greatest hope is that by some means they may persuade this great, free nation to put our enormous economic and military power behind the effort to sustain them in the position which they have held for four-hundred years by taking advantage of the darker peoples of the world. Not only does Mr. Churchill have that in mind, but long before he came to this country, Lord Beaverbrook, who was his right-hand man in the press, expressed it brazenly and openly.

Suppose we do it? Then we confront for the last time in four hundred years the second great world power which is no longer in western civilization, but in Asia. She has a territory greater than ours, she has natural resources which are as great or perhaps greater than ours, she is acquiring our scientific and technical knowledge with such rapidity that it makes one dizzy. At the pace she is now going it is only a matter of time before she will challenge our first position in the world. So great are her natural resources, so great the success of her internal organization, that she is in no need of imperialistic power to win her way farther by taking advantage of the smaller nations. She is in position to step to the forefront and take the leadership of other peoples of Asia and Africa if we do not do so.

If we should be persuaded by Britain and Holland to put our economic, political, and military power behind the effort to hold India and Malaysia and Africa in subordination, it is possible that such a policy would bring about a transference of the normal center of gravity entirely out of western civilization. Thus for the first time in four hundred years, the black people of Africa, the brown and black of India, and the yellow of China and Malaysia would come to look upon Russia as their emancipator!

At this moment it is the most tragic

fact in the world that the decision on this matter lies in the hands of a man who was born and reared in the state of South Carolina, where democracy has not existed for 350 years; who has had no experience with democracy; and whose entire career shows not a single attempt to modify the undemocratic position of South Carolina in relation to the Negro! My hopes are with him. I pray for him with great earnestness because I know he conducts our foreign relations with the greatest conceivable handicap that a man could possibly have, for he has not had the experience of democracy. Never having made a serious effort in his own state, never having given any attempt to carry out the principles of democracy, he cannot have possibly accumulated the honesty of judgment which belongs to those men who have carried out their deepest ideals by a lifelong effort.

We must not underestimate the report of what Molotov was supposed to have said at a recent conference. At that time Mr. Byrnes was saying, as any true American ought to say, "Gentlemen, the United States of America cannot recognize the present Government of Bulgaria, and I may as well be frank with you, the United States of America will not recognize the Government of Bulgaria until we are assured that a government exists in Bulgaria that is devoted to all elements of the people." That was true democracy. Do you know what Molotov whispered to his friend? He said, "That is fine. I understand him very well. He wants us Russians to try out democracy in Bulgaria so that if we happen to succeed with it there, he would then have courage to go back and try it in South Carolina." It is only an observation, but it has this reality: that as long as we have a section in the United States, comprising one-third of our people, in which democracy does not exist, where

democracy has not been tried, and where there is no apparent intention to try it, our sincerity on every great democratic question in the world is subject to question in a manner which will be amusing to the most serious men in the world. More than that, in the Southern states we are training 36,000,000 white men to become accustomed to a daily routine of life which rests upon condescending contempt for other human beings of a different color, implemented by horizontal and vertical segregation in the economic realm and the maintenance of a segregated system of education with no pretense of equality. Those men cannot fail to be a standing temptation to the American will to be content to operate in the world on that basis.

In conclusion, I call upon you to do these things: First, by your letters, your telegrams, your public utterances, and your writings get all the support that you can in making a "no" decision to those of our blood brothers in Europe who very lately tried to get us to use our military and economic power behind an effort to sustain an imperial system. We must distinguish clearly between the love and devotion we owe to the British Isles, Scotland, Ireland, and Wales, and Canada and Australia,—a love we cannot deny and must employ in every measure that is necessary to make it effective,—we must distinguish between that and the abnormal and immoral invitation which is given to us to put our economic, military, and political power behind an effort to keep their feet securely on the necks of the great majority of the darker peoples of the world. On this question we owe John Bull a quiet and loving concession. We should say, "John, before we go into the Council of the United Nations today, we should like to talk with you.

Twice in the last twenty-five years we have gone to your support to fight for your freedom while you kept your feet securely on the necks of India and Africa; and France and Holland and Belgium kept their feet on the necks of Africa. John, this is the last time we are going to do that. The time has come now for the taking of all feet off all necks. If we are going to keep the moral center of gravity of the world inside western civilization where it belongs, and in competition not yield it to some other section of the earth, you now have got to concede to your dependent peoples economic, military, and spiritual liberty. If you will launch that program, we will help you with every resource at our disposal; if you don't do it and you have to go to war to keep your feet on their necks, your foot will stay there by the help of *your* army alone! Under God, we will not betray our own nation's destiny by helping you again!"

Second, once again in our higher educational research we must plunge beneath the condescension of the limited literature which imperialism has given us regarding primitive peoples and the peoples of the East, and bring to light the facts that we now know; namely, that the so-called primitive people are human like ourselves; that many of them are beautiful in physiognomy, that their dances and songs are beautiful; that they have a deep inner life which commands our respect; that they have minds that function exactly like ours and no whit below the level of ours; that they are capable of the highest possible civilization; and that they deserve, by reason of the fact that they have been tried in the crucible and are worthy of the highest respect, that we give ourselves in the most thoroughgoing effort to set them free and be their leaders in all elements of freedom.

UNESCO¹

LUTHER H. EVANS

*Librarian of Congress
Washington, D. C.*

I AM going to talk to you briefly about UNESCO. I think all of you know that UNESCO is the United Nations Educational, Scientific, and Cultural Organization. I am going to tell you what the structure and the procedures of the organization are before I tell you about its functions, because I should like to tell you its functions and ideals in relation to a program of action.

The constitution was written in the city of London by a conference called for the purpose between November 1 and 15 of last year. The conference was called in pursuance of an arrangement between certain governments which had cooperated in an effort to maintain an organization called the Conference of Allied Ministers and Education. This represented the ministers of education of the refugee governments from Hitler's area of domination, and also the British Government, the United States Government, the Government of Soviet Russia, and I believe of certain other countries.

In the discussion of this conference there developed a proposal that there should be set up an educational reconstruction organization, and the United States Government in March 1944, sent delegates to London to participate in a conference for that purpose. The results of that conference were abortive in a sense because it was decided soon to call the San Francisco Conference to set up a united organization, and the

thinking among the educational group changed to the psychology of having a permanent cultural and educational organization, rather than a temporary one.

So after the San Francisco Conference, it was decided to go ahead with the plans for a permanent international organization in the field of education and culture. The basis for this was laid in part in the San Francisco charter and it is there provided that the members of the United Nations might, by intergovernmental agreement, draw up constitutions for independent or semi-independent international organizations in these various fields of social, cultural, education, and scientific relations. The United Nations Charter refers to them by the term "Specialized agencies," and will find those provisions in Article 57 and 63.

About two months after the signing of the San Francisco charter, the British and United States governments simultaneously published a draft for the United Nations Educational, Scientific, and Cultural Organization, and discussion took place from August 1 through the fall. The educational and other groups made preparations for the meeting which was finally called in London in November. The November meeting resulted in the preparation of a constitution which is now before the Congress of the United States for acceptance.

That constitution provides that there shall be created an international organization in the field of science, education, and culture, and that members of the United Nations are auto-

¹ Delivered before the First General Session of the Association in Chicago, March 29, 1946. This account is based upon a stenotype report of Mr. Evans's address.

matically members of this organization unless they signify that they do not want to become members. Forty-four nations signed the constitution in London and the process of ratification is going forward. The organization has a general conference which meets once a year and is composed of up to five delegates from each member nation. That conference is the all-power body of UNESCO. It determines the policies and main lines of work of the organization and decides on the budgets which shall be raised by contribution from the member nations; and the budget, mind you, is settled by this organization itself, and not by the United Nations organization. It is authorized to draft convictions on matters of interest to the various states and submit those for independent ratification, along the pattern of the work of the international labor organization; moreover, it advises the United Nations organization itself on all matters which are of interest to UNESCO, educational, scientific, and cultural, including—and we made a very definite point of this in our discussions at London—the educational problems of the peoples under trusteeship, some of the peoples of the colored races of whom Dr. Johnson has just made mention.¹

It is provided that the general conference shall meet once each year and shall not meet two years in succession in the same place, although (if it wishes) it may alternate between various places, repeating the meeting places frequently. Special meetings may be called if the occasion demands.

We had to face the question of whether we would allow anyone to be a member of the conference who didn't represent a nation. There was a strong element in the London conference

which wished to have representation by known governmental organizations. Others wanted international scientific organizations and international educational bodies to have membership in this conference. It was finally decided that this is an inter-governmental organization and it would be impossible to allow non-governmental representation; but provision was made that the conference might call in the representatives of international organizations of a non-governmental or a governmental character and allow them to participate in certain ways in the proceedings of the general conference.

In addition to the general conference, there is an executive board, which consists of eighteen members in addition to the president of the general conference who acts in an advisory capacity. The members of the board serve for three years, and they represent not their nations, but the general conference. In other words, there is an executive committee of the general conference whose members have instructions not from their government, but solely from the conference itself. Now, of course, since delegates are appointed for one year and members of the executive board for three years, a government may displace a person from the executive board by refusing to have him return as a delegate to the conference. The conference may also elect a substitute, but that would not mean the nation could substitute a new delegate for the old one on the executive board. This executive board has certain powers of an executive character. It works closely with the secretary-general—I believe we call him a director-general in UNESCO—but it is a body which represents the work under the instructions of the general conference.

The third element of the organization is the secretariat, headed by the director-general, who has power to run

¹ See Mordecai W. Johnson, "Education and Interracial Appreciation," in preceding pages of this issue.

the administrative part of the organization in accordance with such authorizations as are given him by the conference and by the executive board.

One of the most important elements in this whole picture of UNESCO, speaking from the standpoint of its organization, is the provision for co-operating bodies in the particular nations which will work with UNESCO to advise their governments in relation to the programs of UNESCO and help with the execution of the programs that are decided on at the general conference. I am going to read you part of this provision, because it is important:

Each member state shall make such arrangements as suit its particular conditions for the purpose of associating its principal bodies interested in educational, scientific, and cultural matters with the work of the organization, preferably by the formation of a national commission broadly representative of the government and such bodies. . . .

So we put in here a proposal suggesting that within each nation there should be set up a national commission broadly representative of the government and the principal bodies interested in educational, scientific and cultural matters within the country. There was a determined effort to have as much of a democratic reflection of the points of view of the educational, scientific, and cultural bodies as was possible under a governmental setup, an arrangement which is really one of international government. Now it says that these bodies, if they are established, shall act in an advisory capacity to the respective delegations to the general conference and also to the governments in all matters affecting the work of UNESCO.

I have already said that the budget is fixed by the general conference and that the money is raised within the framework of UNESCO, rather than through the United Nations. There is a

provision, however, that this organization, once it is established, will enter into certain cooperative arrangements with the United Nations, and it is conceivable that those arrangements might provide for a common budget. Also, there are certain provisions regarding relations with other international organizations as well.

Before I speak of functions, let me tell you briefly of the program for implementation of this organization in this country. The State Department has had a bill introduced in the Congress—it is in both houses as a joint resolution, Senate Resolution 135 and House Resolution 305—which authorizes the President to take us into the United Nations Educational, Scientific, and Cultural Organization. You will notice that this is by a process of joint resolution of the two houses, rather than by the process of Senate ratification of a treaty. It was decided to make the constitution provide for acceptance rather than use the specific term, "ratification." We want the democratic procedure to act in regard to the acceptance of this constitution, which we thought called for action by both houses of the Congress. In addition to that, it authorizes the President to appoint the representatives who may go to the annual conference; it provides that the Secretary of State may set up a national commission "broadly representing the educational, scientific, and cultural interests of the United States"; and it further provides for the sharing of expenses in accordance with the decision of the general conference of UNESCO and authorizes the payment of incidental expenses involved, living allowance, travel, and so forth. That is now before Congress and it is expected that hearings will be held on that bill in the near future.

Now there is one serious controversy about the character of the national

commission; namely, that in which the principal rift of opinion has been produced by certain educational and scientific groups, primarily educational groups, and I wish to explain to you briefly the position that certain educational bodies have taken on this matter and the position which I take.

I shall not attempt to speak for the Department of State or for the government, but in my personal capacity as one of the members of the delegation which went to London, as one of the persons who heard the debate there and also many of the debates that have subsequently taken place in this country in recent discussions of what the character of the national commission should be.

You will notice that the constitution of UNESCO says, "the principal educational, scientific, and cultural bodies shall be broadly represented." It does not say that *each* shall be represented on the federated principle of each picking a member of the commission—and the word "bodies" appeared in the late stage of our discussion. The American delegation took the stand that we should say "principal interests," and that is what the bill says. The bills now before Congress say "that the Secretary of State shall appoint a commission broadly representing these interests in the community." Some educational groups have taken the position that this commission must be made up of delegates from the bodies themselves of which there are some thirty or so principal organizations.

Naturally, quite a controversy is raging on that question. They claim two or three things: one, that you will not get the leaders unless you get representatives from the organization and that you cannot engage the support and the attention of the strong voluntary organizations unless they do have

the authority to delegate and to depurate members of their organizations to serve on the national commission. On the other side there is the argument that you will not be able successfully to discriminate between the few organizations that could be represented, and the many that would not. It is further thought that if you pick good leaders, they will be among the leaders of these important groups and will command their respect; that is, the groups will listen to the programs from these persons.

Personally, after having heard all of the arguments, I am strongly of the opinion that it is better to leave the decision in the hands of the Department of State, or, if you like, in the hands of the President. I would just as soon have the President as the Secretary of State appoint the members of the national commission; as a matter of fact, I would rather, because there would be an appeal from the decision of the Secretary of State to the President if a mistake of a serious character should be made by the former in developing his recommendations. Perhaps those recommendations ought to remain in the hands of the President for some time before approval in order that public discussion of the persons nominated for membership in the national commission could be had.

I hope that you will study this matter and that you will then stem the element of disunion which is developing in regard to it. There seems to be a good chance that the bill will pass Congress in the near future. I don't think there is going to be a serious fight against it. If we should have differences of opinion among ourselves as to the exact nature of the commission and as to the exact program the State Department ought to adopt, and keep them to ourselves for a moment, knowing that

we can have a full opportunity to present those differences of view to the departments later on, it might aid the acceptance of the UNESCO by the United States Government.

I should like to say a word in regard to the whole attitude that the Department of State has taken in regard to this matter. I believe—with all my heart—that the State Department has set a goal in regard to the educational organization, which is wholly exemplary. I believe that from the very beginning its motivation was correct. I believe that it has engaged in democratic consultation with interested groups in this country on a plan and after a fashion which have really displayed a wish to do the democratic thing, thereby resulting in free and frank discussion and in the modification of first positions taken by the Department on many points. So, the result of the deliberation held before the London Conference, the result of the London conference, and the work that the Department of State has done since the London conference give me great confidence that if the Department is supported in the program that it is attempting to carry out, we shall all be very happy with the results.

It has been my pleasure to cooperate with the Department of State in many ways in the past decade. While I have not always approved of what was being done in the areas of my contacts with it, I can say that I have found it to have the finest kind of management. I have also found its motivation to be democratic, open-minded, and generous in spirit in this whole effort to create a broader understanding among the peoples of the world.

That brings me to the final part of my brief speech; namely, the question of what the purpose of UNESCO is, and what we can do through utilizing

its facilities. The basic purpose is stated in excellent wording in its constitution. It seems to me as expressed in the opening words of that constitution, that since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed; that ignorance of each other's ways and lives has been a common cause of war throughout the history of mankind; that suspicion and mystery between the peoples of the world have all too often broken into war; that the great and terrible war which is now ended was a war made possible by the denial of the democratic principles of the dignity, equality, and mutual respect of men, and by the propagation, through ignorance and prejudice, of the doctrines of inequality of men and of races; that the wide diffusion of culture and the education of humanity for justice and liberty and peace are indispensable to the dignity of man and constitute a sacred duty which all of the nations must fulfill in a spirit of mutual assistance and concern.

Then it goes on to say that a peace based exclusively on the political, economic arrangement of government would not be a peace which would secure the unanimous, lasting, and sincere support of the peoples of the world, and that the peace must therefore be founded, if it is not to fail, upon the intellectual and moral solidarity of mankind.

There is the basic doctrine. I don't think I can improve on it by any comment I might state. In fewer words, the basic philosophy of this organization is that peace will not be permanent unless it is based upon knowledge of one another, understanding of one another, appreciation of one another's culture, and freedom of communication among the peoples of the world.

The next paragraph continues: "Be-

lieving in full and equal opportunity of education for all in the unrestricted pursuit of the objectives of truth and free exchange of knowledge and of ideas" We also read, "Ways will be determined to develop and increase the means of communication between their peoples and to employ these means for the purposes of mutual understanding." Mutual understanding is the effort that lies behind this whole operation.

Now I need not tell you educators how much of the responsibility for all of this lies in your hands. I should like to call your attention to the fact that you cannot work alone; you cannot work apart from the other elements in this picture. In addition to the operations in which educators engage, there must be also the operation of pushing back the frontiers of ignorance and increasing the body of knowledge. That is where the scientists come in, in such an important way. In addition to that, we must have also free communication without the restriction of censorship and without the restrictions that grow up from a monopolistic practice of the press and other agencies of mass communication. The abuses which pollute the stream of communication among peoples must be dealt with by understanding among nations, because if the press and the radio and the cinema are not themselves devoted to the creation of understanding and do not facilitate the exchange of knowledge, then those agencies become the enemies of peace rather than the servants of peace. This organization has for one of its great objectives the development of a system by which these instrumentalities will be used for peaceful purposes and will be used for mutual understanding.

Let me be clear on this question of understanding. Understanding among

people counts both ways. There is too much of a sentimental view abroad that if you understand the other fellow, you would beat him before he does you greater damage than he might do later on if you let him alone.

Understanding counts both ways. If we had understood the nature of the menace to world security growing up in Germany, in Italy, and in Japan, in all of those things that happened in the late 1929's and in the early 1930's; if we had appreciated at that time what was going on among those peoples; if we had really understood what kind of pap was being fed to the public of those nations, we would have been far less friendly to them and we would have built firmer foundations for the peace of the world.

So, understanding results sometimes in one kind of action and sometimes in another. The important thing is that you must have the knowledge and you must have the understanding or else you will work in ignorance or work in a way which will jeopardize the place of the world by stumbling into conflict, some of which could have been prevented by earlier positive action.

I could talk a long time on this subject because, as one of the members of the London delegation, I became excited about it, but I know that you are somewhat crowded for time and I shall close by merely saying that it seems to me that the educators of the nation should take UNESCO as an agency through which it will be possible for them to achieve great things by using this machinery of collaboration. UNESCO will not do the work that needs to be done; it will merely provide the place for representatives of various nations to meet, and the representatives of the various nations are going to include educators and scientists and

people interested in the arts and humanities, as well as officers of government. We are trying to make these representatives of these national commissions to be comprised largely of people who are not ordinary bureaucrats, but who are bureaucrats for the specialized purpose on temporary assignment. You can use this agency of collaboration really to strengthen the

foundation of peace. I hope you will so use it. I further hope that in using it, you will also keep your eye on the fact that you are in partnership with the people who are interested in developing mass communication, in pushing back the frontiers of ignorance, and in promoting an understanding among all peoples.

THE PROPOSED REVISION OF THE REGULATIONS AND CRITERIA OF THE COMMISSION ON SECONDARY SCHOOLS

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AT THE 1946 annual meeting of the Association the Commission on Secondary Schools voted to submit to the principals of member schools the tentative revision of the *Regulations and Criteria for the approval of secondary schools* as offered by a special revision committee. This report is an analysis of the responses made by the principals.

The background of the movement to revise the Commission's *Regulations and Criteria for the Approval of Secondary Schools* and the preliminary stages that preceded the 1946 action of the Commission are described in detail in an article written by the author of this report for the January, 1946, *QUARTERLY*.¹

The Committee continued to work during the year. After making some modifications in the proposed revision that was presented at the time of the annual meeting, they authorized its printing and that of a separate approval blank on which the principals were asked to vote "yes" or "no" on each section and to express their reasons for voting negatively. This vote of approval was not a vote for the adoption or rejection of any or all parts of the proposed revision. Its purpose was to sound out the sentiment of the principals so that the revision committee might be guided in the recommendations it might make at the 1947 annual meeting with

respect to submitting the whole revision for actual adoption. The committee had hoped to send out this material at the same time that the annual report blanks were sent to the principals, but circumstances made this impossible. This failure was, no doubt, responsible for the fact that only 59 percent of the principals returned the approval blanks. They were first returned to the principal's state chairman, who, in turn, when a sufficient number of replies came in, forwarded them to the writer's office, in which all the tabulations were made and the comments recorded.

The order of presentation of materials in this report is first, the revision in the form in which it was mailed out; second, the statistical tabulation of the returns; third, an analysis of the general comments made by the respondents; fourth, an analysis of the reasons for the negative votes; and last, the conclusions and possible recommendations that evolve from the interpretations.

PROPOSED REVISION OF THE POLICIES, REGULATIONS, AND CRITERIA FOR THE APPROVAL OF SECONDARY SCHOOLS

At the 1945 annual meeting of the Secondary Commission a committee was appointed to revise the Regulations and Criteria in the light of the Evaluative Criteria of the Cooperative Study of Secondary School Standards. The results of its deliberations are herewith submitted for your consideration. Certain policies have been further interpreted for purposes of clarification; quantitative aspects have, in the main, been embodied in the regulations for the accreditation of schools; and the qualitative defi-

¹ Carl G. F. Franzén, "The Association and the Cooperative Study," *NORTH CENTRAL ASSOCIATION QUARTERLY*, XX (January, 1946), 214-27.

nitions of a good school have been incorporated in the criteria for evaluation.

It is to be understood that much greater flexibility is permitted in judging a school on the criteria than on the regulations, although a school may be warned if it fails to measure up to the description of a good school, after due consideration has been given to its total pattern of merit.

The report which the revision committee will present next April will be submitted in 1947 to all member schools for a referendum vote. *In order that the committee may be guided by your reactions, will you please record on the specially prepared blank your approval or disapproval of each section. Return this blank to your State Chairman when you send him your annual report blank.*

GUIDING PRINCIPLES

There are certain guiding principles which should be helpful in the selection of *criteria for the evaluation of secondary schools*. For example:

1. An institution should be judged upon the basis of the total pattern it presents as an institution of its type. While it seems necessary that institutions be judged in terms of particular characteristics, it should be recognized that wide variations will appear in the degree of success achieved.

2. It should be accepted as a principle of procedure that deficiency in one field may be compensated for by strength in other fields—no school should be denied accreditation because it fails to meet a specific standard if its total pattern of achievement is good.

3. A school should be judged, in so far as is possible, in terms of its own philosophy and the purpose which it serves in its own community.

4. Criteria should be flexible, and of a type that can readily adjust themselves to changing conditions. The fact should be recognized that individual differences exist among schools and among communities.

5. Objective criteria should be based upon a sufficient amount of research and experimentation to establish their validity as measuring instruments.

6. While it seems desirable that criteria regard as basic certain characteristics, such as faculty preparation, the intellectual and moral tone of a school, the nature of the school plant, the adequacy of equipment and supplies, the quality of the school library and library service, the condition of the records, the policies of the board

of education, the financial status, the teaching load, and the educational program it should be recognized that considerable divergence from normal standards may occur in one of these characteristics without greatly detracting from the educational merits of an institution. Uniformity in every detail stifles educational experimentation and is not only unnecessary but undesirable.

7. Criteria to be of maximum value must be stimulating and conducive to educational growth; they should provide the facilities for continuous self evaluation and the incentive to strive endlessly toward higher goals of achievement.

POLICIES

POLICY 1.—No recommendations.

POLICY 2.—It is the policy of the Commission to recommend the removal from the approved list of the Association any school which after a year's warning continues to violate the same regulation or criteria for approval which was violated the previous year. Upon the recommendation of the State Committee, this policy, however, may be waived by a three-fourths vote of the Commission members present.

Interpretation

State Committees are encouraged to advise a school, which has been warned for violation of a regulation or a criterion to submit to an evaluation, using the *Evaluative Criteria*. This evaluation is to be carried out when, in the opinion of the State Committee, it will assist in improving the condition for which the school was warned, or in explaining the extenuating circumstances which may justify a second warning or even the discontinuance of the warning.

POLICY 3.—No recommendations.

POLICY 4.—Credits acquired through summer session work, extension courses, correspondence courses or state examinations will be accepted by the Association as counting toward the preparation of the teacher if such credits are accepted by an approved institution if higher education.

Interpretation

The Association recognizes that credit established in accordance with the recommendations in *A Guide to the Evaluation of Educational Experiences in the Armed Services* is sound. Such credit may be counted as a part of the preparation of the teacher, when accepted by an approved institution of higher education.

POLICY 5.—No recommendations.

POLICY 6.—No recommendations.

POLICY 7.—It is the policy of the Association to warn high schools for violation of the conditions for eligibility to the approved list of the Association and to drop from this list any high school which violates the same regulation or criterion during consecutive years. High schools also may be warned or dropped whenever it becomes evident that they frequently violate conditions for eligibility to the approved list. In the case of a minor violation, the Association may instruct the State Committee to advise the school concerned. It is the policy of the Association not to take an action which is different from that recommended by the State Committee without first notifying the committee of the state concerned.

Interpretation

The procedure suggested in the interpretation of Policy 2 also applies to Policy 7.

POLICY 8.—In the case of individual schools of any state, reasonable deviations from regulations and criteria may be accepted by the Commission and approved by the Association when recommended by the State Committee. Such recommendations must be supported by substantial evidence showing that these deviations are justifiable.

Interpretation

No school should be denied accreditation if it fails to meet fully all criteria and regulations, provided its total educational pattern is good, as revealed by the results of a competent survey or other evidence. Policy 8 also applies to new schools seeking admission. State Committees and Reviewing Committees are justified in expecting closer adherence to published regulations and criteria in the case of new schools. Special attention, however, shall be given to the reports of State Committees which have used the *Evaluative Criteria* as one of the steps to be taken by new schools in making their applications for admission. It is recommended that State Committees ask each prospective new school to carry out at least a self evaluation using the *Evaluative Criteria*. Such schools should be encouraged to use the full Cooperative Study Procedure, supplemented by a review of the self evaluation by a visiting committee or by the State Committee.

REGULATIONS FOR THE ACCREDITATION AND APPROVAL OF SECONDARY SCHOOLS

Regulations are those yardsticks which serve to assist schools who are members of the Association with definite guidance as to the necessary minima to be observed. In other words, regulations are floors below which there seems to be agreement that schools may not fall and still be of the type that should be considered good schools according to the Association's Criteria.

REGULATION 1.—*The Annual Report Blank.* The Association is under no obligations to consider a school for unqualified approval unless the annual report blank has been properly and completely filled out as of October one and placed on file with the State Chairman not later than November one.

REGULATION.—*Organization of the School.* A secondary school shall base its report on all grades included in its organization.¹

REGULATION 3.—*Qualifications of Staff Members.* (a) *Instructional Staff.* (1) *General Preparation.* All members of the instructional staff possess a Bachelor's degree from an institution of higher education approved by the North Central Association of Colleges and Secondary Schools or from an institution of equal standing. (Exceptions may be made when recommended by the State Committee in the case of teachers of trades who are legally qualified to teach in the state and who have had the apprenticeship training required in their respective trades.)

Graduates of colleges not recognized by the North Central Association nor by any other regional accrediting agency may become eligible to teach in a secondary school accredited by the Association by being admitted to graduate standing in an institution of higher education accredited by the Association or by any other regional accrediting agency, and by completing successfully not less than six semester hours of graduate work. This part of the regulation is not to apply to graduates of non-accredited colleges who desire to teach in the state in which they were graduated when approved individually in accordance with the policy of the State Committee.

(2) *Professional Preparation.* The minimum professional preparation of individual members

¹ A six-year high school may, with the approval of the State Committee, report upon the upper three years of the school.

of the instructional staff is fifteen semester hours of education. In the case of a teacher whose professional preparation consists of less than fifteen semester hours, the State Committee shall have power to waive this regulation if, in its judgment, the teacher is otherwise highly qualified and is doing clearly superior work.

(3) *Preparation in Teaching Areas.* Adequate preparation in teaching fields and areas is defined as that which meets the legal requirements of the state in which the school is located, and also any special requirements set up by legally constituted educational authorities of the state, provided, however, that the minimum preparation is fifteen semester hours at the college level in any one of the following areas: language arts, a foreign language, social studies, science, mathematics, business, health and physical education, music, art, home economics, agriculture, and industrial arts, and adequate preparation in each subject taught.¹ In the case of a teacher who devotes a minor fraction of his time to the teaching of a particular subject, a reasonable deviation from the minimum preparation may be accepted when approved by the State Committee.

In the case of unified courses which draw their subject matter from two or more teaching fields, the minimum preparation expected will be twenty semester hours on the college level, appropriately distributed among the teaching fields concerned.

Each State Committee will submit to the Secretary of the Commission on Secondary Schools the requirements of the properly constituted educational authorities of the state pertaining to the preparation of teachers in subject fields and areas.

(4) *Record of Teachers' Preparation.* An official transcript or a certified copy of the college preparation of each teacher is kept on file in the office of the administrative head of the school. All information submitted on the annual report blank which pertains to the preparation of teachers is secured from such official records. An official transcript is the institutional credit record signed by the registering officer of the higher institution certifying the credits. Its sub-

mission to the State Chairman for evaluation may be required.

(b) *The Library Staff.*² (1) *The Librarian.* In schools with an enrollment of 500 or more pupils, the librarian is a full-time librarian. In schools with an enrollment of 200-499 pupils, the librarian may be a full-time librarian, a study-hall librarian, or a teacher-librarian; at least half the time of a teacher-librarian is devoted to the library. In schools with an enrollment of less than 200 pupils, at least two periods a day of the teacher-librarian's time are devoted to the library.

(2) *Professional Preparation.* The librarian meets the requirements of Regulation 3A (1) and (2). In a school with an enrollment of 500 or more pupils, the librarian has completed a minimum of 24 semester hours of library science. In a school with an enrollment of 200-499 pupils, the librarian has completed a minimum of 16 semester hours of library science. In a school with an enrollment of less than 200 pupils, the librarian has completed a minimum of 6 semester hours in library science.

The work in library science includes such courses as the following: school library organization and administration, cataloging and classification, book selection and acquisition with emphasis on the reading and needs of adolescents, reference material, and general bibliography.

(3) *Assistants.* Provision is made for an adequate number of assistants to the librarian, either as assistant-librarians or as pupil-librarians.

(c) *Other Professional Staff* (physician, dentist, nurse, psychiatrist, psychologist)—Members of the non-instructional professional staff meet the requirements of the state in which the school is located.

(d) *Clerical Staff.* Adequate clerical assistance is provided. The qualifications of such personnel include, as a minimum, high school graduation and preparation in office practice.

(e) *Custodial Staff.* The members of the custodial staff meet the state requirements pertaining to their training and employment.

REGULATION 4.—*Administrative Staff.* (a) *The Principal,* or the administrative head of the secondary school, has had at least two years of teaching experience and possesses as a minimum a Master's degree from an institution of higher

¹ Deductions in mathematics or in any one foreign language may be allowed to the extent of two semester hours for each unit earned in high school, not to exceed a total deduction of six semester hours.

² Schools are expected to meet Regulation 3B not later than the school year 1952-53.

education qualified to offer graduate work. His preparation in school administration and supervision includes an appropriate distribution of graduate work covering those phases of the school administrator's work which are professional in character, such as secondary school administration, curriculum making, the supervision of instruction, methods of teaching, philosophy of education, history of education, pupil activities, guidance, health and safety, vocational education personnel records and reports, and school finance. Anyone who holds the title of principal meets the foregoing requirements.

(b) *The Superintendent.* The superintendent or the administrative head of the school system has the teaching experience and professional preparation described in Regulation 4A.

(c) *Supervisory Assistants.* Any member of the faculty who assists the administrative head of the school in the supervision of instruction possesses, as a minimum, the requirements specified in Regulation 3A (1) and (2), and, in addition, an appropriate distribution of graduate work in such fields as the supervision of instruction in the secondary school, personnel and guidance, methods of teaching, educational psychology, and philosophy of education.

REGULATION 5.—*Length of School Year.*—The minimum length of the school year is thirty-six weeks, 180 days, with a minimum of 172 days of classes actually in session.

REGULATION 6.—*Length of Class Period.* (a) A school may elect to conduct classes on a short or long period basis. The minimum length of the short class period for one unit of credit is defined as 40 minutes, exclusive of all time used in the changing of classes or teachers, five times a week for thirty-six weeks or 180 days. Under this plan, two class periods necessitating little or no preparation outside of class are considered as equivalent to one hour of prepared class work.

(b) The length of the laboratory or long class period, for one unit of credit and for the purposes of this regulation, is defined as a minimum of 55 minutes exclusive of all time used for the changing of classes or teachers. Under the long period plan, directed study may be substituted for the outside preparation required for the short period class. Under the short or the long period plan, however, a reasonable amount of outside or independent study by the pupils in accordance with their abilities is encouraged.

REGULATION 7.—*Requirements for Graduation.* (1) A three-year senior high school requires

minimum of twelve units, or 120 semester hours, for graduation. Four-year senior high schools require a minimum of sixteen units, or 160 semester hours, for graduation. Six-year high schools require a minimum of twelve units, or 120 semester hours, earned in the upper three years. (See Regulation 2.)

(b) A semester hour is defined as the amount of credit granted for the completion of a course covering one semester and which consists of one class period weekly, as defined in Regulation 6.

(c) In order to permit variation from the foregoing definitions of a quantitative unit of credit based upon time element and to stimulate improved standards of scholarship, the school may elect to grant credit on a qualitative basis. School authorities, therefore, are encouraged to determine credit through the use of approved end-of-course tests. These tests measure the achievement ordinarily required for credit in a one or two semester course. Any supplementary evidence which may be considered necessary or desirable to establish the validity of such credit may be required.

(d) Tests may be used to classify individuals entering school with educational experience for which regular transcripts of credit are not available. Each individual thus tested is placed in the educational courses best suited to his needs.

(e) State Committees are empowered to approve this plan for those schools wishing to adopt it, provided the school has personnel trained for the administration of such testing program, and provided also that the tests used are those approved by the North Central Association of Colleges and Secondary Schools. The scores of such tests may be used for the transfer of credit to other schools and to colleges.

REGULATION 8.—*Size of School.* An approved school employs, as a minimum, a number of full-time teachers, one in excess of the number of years in the organization of the school.

REGULATION 9.—*The Pupil Load.* In order to protect the social as well as the intellectual maturity of the pupil, it is advisable that he have four years experience in a four-year high school and three years experience in a three-year high school in order to graduate.¹ In exceptional cases pupils may be allowed to graduate in less than the time specified above, provided that

¹ If the school has a summer session, the time spent may be counted as a proportionate part of the school year.

adequate guidance procedures have been exercised.

REGULATION 10.—*The Teaching Load.* In determining the teaching load, consideration is given to the following components: the number of periods of class teaching, the number of different preparation, study hall duty, class size, total number of pupils taught daily,¹ the demands made in the way of any guidance and supervisory activities, and the duties involved in the sponsorship of pupil activities. Due allowance is made in computing the teacher load for special assignments to committee work whose purpose is to improve any phase of the school program. The desirable maximum equivalency of a combination of such duties is six periods daily, including study hall assignments, for the short period schedule, and five periods daily, including study hall assignments, for the lengthened period schedule. A teaching load in excess of seven periods daily, including study hall assignments, for the short period schedule and six periods daily, including study hall assignments, for the lengthened period schedule is considered a violation of this regulation.²

REGULATION 11.—*Library Expenditures.* (a) That part of the annual secondary school budget devoted to library expenditures varies according to the size of the school, the smaller the school, the smaller the school, the greater the pupil per capita expenditure. A minimum amount of \$200.00 is expended annually in each secondary school for the purchase of library books, periodicals, newspapers, pamphlets, vertical file materials, and supplies.

(b) In addition to this amount, the budget is planned in accordance with the library needs as shown by the annual library inventory and in accordance with the school's objectives for library service. The following scale of annual expenditures is recommended as a guide.

Schools with an enrollment of 1000 or more pupils expend approximately 50 cents per pupil.

Schools with an enrollment of 500 to 999 pupils expend approximately 75 cents per pupil.

¹ The Association considers approximately 150 pupils per day as a desirable maximum teaching load. Where a considerable proportion of the faculty carries a load in excess of 150 pupils per day, justifiable evidence in support of such a policy may be required by the State Committee.

² The total teaching load is not excessive and is distributed equitably among the teaching staff.

Schools with an enrollment of 200 to 499 pupils expend approximately \$1.00 per pupil.

Schools with an enrollment of less than 200 pupils expend not less than \$200.00.

REGULATION 12.—*Financial Support.* The financial condition of the school district or governing body is such that it is possible for the school to meet the conditions for accreditations and to maintain reasonably well standards of excellence as indicated in the Criteria for the Evaluation of Secondary Schools.

CRITERIA FOR THE EVALUATION OF SECONDARY SCHOOLS

The standards of excellence which a school holding membership in the North Central Association is expected to maintain are based on statements in the Evaluative Criteria, as developed by the Cooperative Study of Secondary School Standards.

CRITERION 1.—*Philosophy and Objectives.* (a) *The School's Philosophy.* Each school should be free to determine its philosophy to the extent that it promotes the principles and spirit of American democracy. The statement of philosophy should be written, implemented by a specific statement of objectives, and manifested in the educational program of the school.

(b) *Pupil Population and School Community.* Since the school exists for the educational needs of its constituency, it should be familiar with the distinctive characteristics of the community, such as its sociological composition, its social, economic, religious, recreational and educational institutions and agencies, and the educational needs of both youth and adults. Since the local community is also a part of the state, nation, and world, the school must also be concerned with an understanding of the social, political, economic, and other forces of these larger communities and with the development of the ability of all peoples to live together in one world. A school, therefore, should develop its philosophy and objectives from an analysis of such social factors.

CRITERION 2.—*The Educational Program.* The educational program of the school is concerned with more than the accumulation of knowledge, development of skills, and improvement of understandings. The development of interests, tastes, appreciations, ideals, and attitudes, and the functioning of all these elements in a democratic society should be included in the educational program.

An educational program which is concerned only with preparation for college can no longer be considered an adequate offering for a school, although preparation for college should continue to be one function of secondary education. The program should provide for the interests, and abilities of all pupils as well as for the requirements of the community and the public supporting the school.

The evaluation of an educational program should be made in terms of the curriculum and courses of study, pupil activities, the library, guidance, instruction, and outcomes.

(a) *The Curriculum.* The curriculum should be chiefly concerned with the orientation, guidance, instruction, and participation of youth in those significant areas of living for which education should supplement the work of other social institutions.

Constant adaptation and development of the curriculum should be a cooperative enterprise engaging all staff members, carried on under competent leadership, and using all available resources. Carefully conducted and supervised experimentation for curriculum development is desirable.

(b) *Pupil Activity Program.* The pupil activity program should aim to develop desirable social traits and behavior patterns in an environment favorable to their growth. Special importance should be attached to provision for pupil participation in school administration through student councils or similar organizations. The activity program should not only provide opportunity for developing leadership ability but should stimulate active participation of all pupils in appropriate school organizations and community activities.

(c) *Library Service.* The Library is easily accessible to pupils, adequate in size, and attractive in appearance.

Adequate provisions for the school library should include the following: (1) a well-educated, efficient librarian; (2) books and periodicals to supply the needs for reference, research, and cultural and inspirational reading; (3) provision for keeping all materials fully cataloged and well organized; (4) a budget which provides adequately for the maintenance and improvement of the library; (5) encouragement of pupils in the development of the habit of reading and enjoying books and periodicals of good quality and real value; (6) continuous and systematic use of the library by teachers.

(d) *Guidance Service.* Guidance, as applied to the secondary school, should be thought of as an organized service designed to give systematic aid to pupils in making adjustments to various types of problems which they must meet—*education, vocational, health, moral, social, civic and personal*. Guidance activities should be organized into a definite program in which each staff member is a responsible participant. Where counselors are available, they should be responsible not only for specific activities but for stimulating and assisting teachers in their guidance activities.

(e) *Instruction.* In the instructional program evidence should be found of: (1) goals or objectives appropriate to the degree of development of pupils and in keeping with the purposes of the school; (2) the selection and use of varied types of teaching and learning materials and experiences; (3) the adjustment of method and organization to conditions and needs of pupils as a group and as individuals; (4) the use of every legitimate means available in the evaluation of progress and quality of learning; (5) a personal relationship of confidence, respect, and helpfulness between teachers and pupils, resulting in similar relationships between school and community; (6) provision for all desirable types of learnings; (7) definite and adequate learning by pupils as an outcome.

The efficiency of instruction, the acquired habits of thought and study, the general intellectual and moral tone of a school, and the cooperative attitude of the community are paramount factors. Only schools that rank well in these particulars are considered eligible in the list of schools approved by the Association.

(f) *Evaluation of Outcomes.* In the educational program of a good secondary school, major concern should be given to attaining desirable outcomes and to the various kinds of evidence indicating that such outcomes are being realized.

The results of the learning process should include: (1) factual information or knowledge; (2) meaning and understanding; (3) abilities to do—knowledge and understanding combined with skill; (4) desirable attitudes—scientific, social, moral, and others; (5) worthy ideals, purposes, appreciations, and interests; and (6) resultant intelligent participation in general life activities.

CRITERION 3.—School Staff. (a) *The Instructional Staff.* The staff should be a group of individually competent persons, organized into a cooperative body, having common purposes and motivated by the philosophy of objectives of the

school. Diversity of preparation and viewpoints is desirable for a well-rounded staff, but it members should have the ability and the desire to work together, cheerfully, harmoniously, and efficiently for the good of the school and its pupils. Each member of such a staff should give evidence of awareness and understanding of educational problems and of *continuous professional growth*.

The number of staff members should be adequate for the curriculum offered, the school's enrollment, and the special needs of the pupils and the community. The teaching load and the total working load should be such as not to endanger the special needs of pupils.

Each staff member should have broad, general scholarship, thorough preparation in his special field, professional competence, and reasonable social development. In the selection of individual staff members attention should be given to teaching ability, personality, health, and character. In evaluating the adequacy of the general preparation of the instructional staff, State Committees will take into consideration the extent to which the staff as a whole has completed work beyond the Bachelor's degree, the kind and distribution of college courses taken, the recency of their completion, and other evidences of professional growth.

Teachers should receive salaries adequate to insure a living standard comparable with the social demands on the profession and the worth of their service, as well as to provide security

(b) *The Librarian.* The library staff has a broad, general education, a good understanding of the school's philosophy of education and of its educational program, and some successful teaching experience. The staff has the ability to work effectively with teachers in finding and using suitable library materials and aids in teaching and learning, to work agreeably and effectively with pupils, and to teach them to find and use library material readily and effectively.

(c) *Other Professional Staff.* The services of such personnel as physician, dentist, nurse, psychiatrist, psychologist are desirable and should be adequate to the needs of the school.

(d) *Clerical Staff.* The clerical assistance necessary for an effective program of instruction, administration, and supervision should be provided.

(e) *Custodial Staff.* The number of custodial staff members should be adequate to keep the school plant in sanitary and efficient operation.

They should be trustworthy, resourceful, and cooperative.

(f) *Health Examination.* A health examination should be given to every new employee and periodically to every staff employee.

CRITERION 4.—Administration and Supervision. (a) *The Board of Education.* Responsibility for determining the general policies of the school system is entrusted to a governing board, hereafter designated as the board of education. The administrative head of the schools is the chief executive officer of the board of education. Subject to the approval of the board of education, the administrative head is responsible for the selection and assignment of all school employees, the business management of the schools including school plant and equipment, the administration and supervision of the educational program, and the program of public relations. These duties necessitate organization of resources, both material and personal; delegation of duties and authority; and supervision of all delegated tasks and of all individuals to whom authority and responsibility are assigned. The better the administrative personnel, the more efficient will be the organization and management and the greater the probability of the successful attainment of the school's objectives, provided the personnel is always mindful of the primary function of the school—the development of its pupils. Success should be measured in terms of results, not of machinery.

(b) *Policies of the Board of Education.* (1) The policies of the board of education are such as to encourage a maximum of educational growth and development. The board of education has a published statement of policy.

(2) The policies of the board of education are such as to attract and retain the services of well-qualified and competent staff members and a well-trained school administrator who is capable of providing effective educational leadership. It is the policy of the board under which an accredited high school operates to employ, promote, demote, and discharge staff members and other employees only upon the recommendation of the administrative head of the school system.

(3) No employee is dismissed during the term of a contract or refused reemployment except at an official meeting of the board of education. The minutes of such a meeting clearly indicate all actions taken by the board. Employees who are being dismissed or refused reemployment are given the reasons for the action taken by the

board and are also given an opportunity for a hearing.

(4) The administrative head of the school attends all meetings of the board of education except that part of a meeting when his own employment is under consideration.

(5) The board of education deals with staff members and other school employees through the administrative head of the school system.

(6) The administrative head of the school system is held responsible by the board of education for submitting to it a carefully planned budget and also for the expenditure of money in accordance with the budget which has been adopted. He keeps those members of the staff who have responsibility for the proper expenditure of school funds informed as to the balances remaining in that part of the budget which relates to their own departments.

(7) The administrative head of the school should share with the controlling board responsibility for establishing and maintaining desirable relations with the school's public. Therefore the supporting public should be informed regarding the policies, program, objectives, activities, and plans for the future of the school so that the support of the public be assured for the school's undertakings. There should always be a sympathetic and understanding relationship between the school and its administration on the one hand, and its public on the other.

(c) *Cooperative Relationships.* The working relationships between the board of education and the administrative head of the system, between the administrative head of the system and the principal of the secondary school, and between principal and staff are such as to insure successful and effective administration. Administrative procedures should be carried on by democratic processes which recognize the abilities and contributions of staff members.

(d) *Administration.* The administration of the school is such as to insure a well-organized and well-managed school, effectively and intelligently supervised, and meeting the needs and interests of the pupils enrolled and of the community. Stability of organization and tenure of the teaching staff, as shown by the past history of the school, its enrollment, the attitude and support of the community are matters which will be taken into consideration in determining whether the school is eligible for accrediting.

Interference with the administration of the high school by organized groups of teachers or

pupils or by the board of education, or by organized groups outside the school, when such interferences are of a type that usually result in a lowering of the effectiveness of the educational program, will be considered sufficient grounds for an official visit and inquiry into the condition of the school.

(e) *Supervision.*—Supervision includes the improvement of every phase of the educational program, such as the organization of programs of studies, the revision of curricula, the instructional procedures, the pupil activity program, the non-instructional activities of staff members, as well as observation of classroom activities. The administrator directly in charge of a secondary school should have ample time during the school day for the administration and supervision of his school.

(f) *Administration of the Activity Program.* A secondary school should not participate in any district, state, interstate, or regional athletic, music, commercial, speech, or other contest tournament, congress, or assemblage involving the participation of more than two schools, except those approved by the State Committee, or by that organization recognized by the State Committee as constituting the highest authority for the regulation and control of such activities.

(g) *System of Records and Reports.* A school should provide and maintain a type of personnel and record system of such nature that it can provide any of the data asked for in the Criteria.

CRITERION 5.—(a) *The School Plant.* The school plant should be flexible, adequate in size, and so planned as to facilitate the offering of a modern program of secondary education that is suited to the needs and interests of the pupils and of the community. When a new plant is being planned or an existing building is to be enlarged or remodeled, plans should contemplate meeting future as well as present needs. The building should be attractive and appropriate in design and should assure the safety and health of its occupants. The site should be large enough to provide ample playground space and should be attractively landscaped.

(b) *The Library.* (1) *Materials.* The number and kind of library and reference books, periodicals, newspapers, pamphlets, and vertical file materials should be adequate¹ for the number of pupils enrolled and meet the interests of the

¹ Quality of service and adequacy may be measured by the use of Section F, Library Service, of the *Evaluative Criteria*.

pupils and the needs of instruction in all courses offered.

(2) *Location and Equipment.* The library room, or combination library-study hall, should be easily accessible, should accommodate approximately ten per cent of the enrollment, should be attractive in appearance, and should contain standard library equipment, such as: reading tables, desks or desk-chairs, chairs, librarian's desk, cabinets for card catalogs, magazine and newspaper racks, dictionary stands, and filing cabinets.

The record system should include a shelf list, alphabetically arranged card catalogs, an accession record, and should be classified by the Dewey Decimal system or other acceptable standard classification system. The central library may be supplemented by departmental or classroom libraries of frequently changed materials appropriate to the work of individual classes.

(c) *Sanitation.* Janitorial service, lighting, heating, ventilation, water supply and drinking fountains, lavatories and toilets, wardrobes and lockers, school furniture, and location of the classrooms, shops, laboratory, and library should be such as to insure hygienic conditions for pupils and teachers.

(d) *Safety.* Proper steps for protecting pupils against injuries should be taken in laboratories, shops, gymnasiums, transportation facilities, and in all parts of the building or grounds where accidents are likely to occur. The school plant should be adequately protected against fire, and should have fire exists.

(e) *Instructional Equipment and Supplies.* Instructional equipment and supplies, such as: science apparatus, laboratory tables and demonstration desks; shop tools and machinery; gymnasium equipment and supplies; equipment for home economics and agricultural laboratories; equipment and supplies for commercial, art, and music rooms; audio-visual aids equipment; maps and charts; library books and supplies should be adequate and used in such a way as to meet the needs of instruction for all courses and activities offered.

(f) *Special Services.* Adequate provision should be made according to the individual needs of each school for such special services as cafeteria, dining rooms, kitchens, clinics, infirmary facilities, and study and sleeping quarters.

(g) *Protection of Pupil Records; Care and Storage of Equipment and Supplies.* Ample pro-

vision should be made for the safekeeping, systematic arrangement, and care of all materials, supplies, and apparatus used in the instructional and activity program, and the storage of all financial and personnel records and reports. An annual inventory is made of all equipment and supplies. A fireproof vault should be provided, or a safe which meets underwriters' specifications.

There are 3,037 member secondary schools of the North Central Association. Of this number 1,768, or 58.2 percent, returned the approval blanks. Table I lists the states in the order of percentage returns.

TABLE I
PERCENTAGE RETURNS

State	Percent
Wyoming.....	94
Arkansas.....	87
New Mexico.....	83
Colorado.....	79
Wisconsin.....	79
Indiana.....	78
Minnesota.....	75
Michigan.....	74
Nebraska.....	64
Iowa.....	59
Illinois.....	57
Oklahoma.....	54
South Dakota.....	53
Ohio.....	51
Montana.....	49
Arizona.....	48
Missouri.....	42
Kansas.....	34
West Virginia.....	32
North Dakota.....	29

There was not a single regulation or criterion which did not receive at least one negative vote. There were twenty-nine items on regulations and thirty-six on criteria. Although the approval was almost unanimous, ranging from 86 percent to 99 percent on every item, there was much evidence that many of the principals had taken the time to give careful attention to the revision because of the hundreds of comments that were written to explain the vote of approval or dis-

approval. One principal said, "We spent better than two hours going over the items covered in the blank." The greatest number of disapproving votes cast against any regulation was on 3b and for any criterion was on 3f. Even then, the totals were only 247 and 59, respectively.

In order to show more clearly how the principals voted, Table II lists the major regulations which were disapproved by 3 percent or more of the respondents.

in assisting the revision committee to submit a more fool-proof set of revisions for the final vote.

Before presenting an analysis of the principals' reactions to each of the regulations and criteria, it should be interesting to learn what some of these men think of the whole program. Let them speak for themselves.

In general I believe the regulations and criteria as set forth are reasonable. During the war emergency a teacher-shortage has presented difficulties in properly staffing our school facilities,

TABLE II
REGULATIONS DISAPPROVED BY 3 PERCENT OR MORE OF THE PRINCIPALS

<i>Number of Regulation</i>	<i>Name of Regulation</i>	<i>Number of Votes</i>	<i>Percent of Disapproval</i>
3b2	Professional preparation of librarian.....	274	15
3b1	The librarian.....	116	6
3a3	Preparation in teaching areas.....	62	4
10	Teaching load.....	57	3
3a1	General preparation of teachers.....	56	3
11b	Library expenditures.....	52	3
4a	Preparation of the principal.....	51	3
8	Size of School.....	50	3

The only criterion disapproved by as many as 3 percent was 3f, Administration of the Activity Program.

So far as the expressions of approval and disapproval are concerned, the Commission could ask for permission to submit the revision for a vote of adoption or rejection. Disapproval of not more than 15 percent looks like a mandate to submit the revision as it is now worded. The matter is not that simple, however, since due heed should be paid the many critical and constructive comments which the principals took time to record. Even though the negative votes are comparatively few, those who have taken the trouble to express themselves may have uncovered a fundamental weakness, a fallacy, or an inconsistency in some regulation or criterion. These thoughtful criticisms may be of great service

but, with reasonable leniency in this respect, I believe the North Central Association will be entirely justified in holding in force its present demands as proposed.

The emphasis upon the qualitative definitions will, I feel, stimulate improvements in those aspects of the total school program which are difficult to measure under the old procedure. I am particularly pleased to find a clear recognition of the obligations of our school to the total community, and a consequent emphasis upon local autonomy in matters of philosophy and curriculum.

We have been impressed with the proposed revision because we think you have been very generous in trying to see that the success of the schools should be measured in terms of results, not machinery.

I read the proposed revisions. . . . While there are some places where a radical change is being made, I find nothing that should be a deterrent for any school maintaining proper standards.

Believe it or not, the various committees and student body meetings take very seriously the rules and regulations of the North Central Association.

With but few exceptions the general tone of this type of comment is in hearty favor and accord with the work of the revision committee. It is to be expected that there would be a few who question the whole program of the Association. What this principal says is characteristic of this attitude, "It would seem to me that the work of the North Central Association could very well be done by the State Department of Education." One complaint that will be found several times in connection with specific regulations and criteria is that these have been written wholly from the point of view of the public secondary schools. The request is therefore made that special leeway be granted such schools with respect to the particular item at issue. Several principals object to the revision on the ground that the present is no time to raise standards. Since most of the regulations were transferred from the previous set of regulations and criteria now in force the only interpretation that can be given to such an opinion is that the principals were not themselves fully acquainted with the present set. It was, then, possibly a good educational experience for them to read carefully the proposed revision.

The main part of this report is concerned with the criticisms and suggestions that have been summarized and, in some cases, interpreted for each regulation and criterion. By referring to the appropriate section in the revision blank the reader can identify just what the problem is. In preparing this section of the report, the first step was to record for each state and by each regulation and criterion, separately, the criticisms or suggestions made on the individual items as listed on the approval blank. When this task was finished, a composite summary of all the comments

was made on each item from the separate state compilations. It is this composite summary that forms the major portion of this report. A conscientious attempt was made to assemble the comments and criticisms in such a way as to portray as accurately as possible the tenor and import of the various statements. In many instances the exact wording of the principal is quoted, otherwise no quotation marks are used. Then, too, where the writer felt it desirable to make some comments with respect to an expressed point of view he felt free to include them. These comments are italicized.

The order of presentation is the same as that of the listing on the approval blank. The *Regulations* have been treated first, and the *Criteria* next. We did not ask for any opinions on the guiding principles and the policies, although the Ohio group of principals did vote their approval of them.

REGULATIONS

1. The filling in of the annual report blank comes at the busiest time of the school year. Colleges are slow in sending transcripts. In one state teachers are allowed until November 15 to complete their degree requirements. Some schools would like to wait until November 15, others to December 1. A suggestion from Illinois is that the North Central blank be identical with the one sent to the State Department. *Little does he realize that there are nineteen other state departments and nineteen other kinds of state annual report blanks.*

2. In some schools, grades 7 and 8 are in the high-school building for convenience, whereas they are really a part of the elementary system. In Ohio, grades 7 and 8 are treated as elementary in the distribution of

state funds. One asks, "If we are to have six-year schools, then why not report on all six years?" Another wants to know the Association's policy with respect to the 4-4 type of organization. He thinks that such a school should report only on grades 11 and 12.

3a1. Some one from every state had comments on this regulation. Four points of view emerge. Teachers should not be penalized for being graduates of non-accredited colleges. The regulation should not be retroactive. Teachers of technical subjects and of highly specialized interests should be excepted. Previous experience should also be considered for such teachers. This regulation is difficult to enforce during the emergency, especially by small schools. Then there are those who believe that the Association should fight to make non-accredited colleges accredited.

3a2. This is no time to lower or waive professional requirements according to some principals. Courses in professional Education should be defined. Fifteen hours in Education are insufficient. Experience and proficiency are more valuable criteria than semester hours of professional preparation. Private schools who get their teachers from eastern colleges should be allowed to grant these teachers two years to obtain their professional preparation.

3a3. The greatest point of attack seems to be directed toward that section which permits variations according to the different state certification requirements. Many say that there should be only one set for all North Central Association schools; in fact, it is none of its concern if a state does demand further preparation. *Whoever said this does not realize that schools in any state must first meet that state's requirements for a first class*

commission, and meeting the state's teacher education requirements is one of the requisites for such a commission. "If the Association is to pass on a school's observance of one prescription of a state—teacher preparation—logically it should also inquire into the school's observance of all the other state prescriptions regarding curriculum, library, length of school year, records, etc., as new Regulations 3c and 3e do in part." Another complaint is that not enough hours are required in some areas. These are social studies and unified courses, although some wish to know what unified courses are. Others ask why credit is not given for work taken in high school in typewriting and shorthand as well as in mathematics and a foreign language. Allowance should be granted for previous experience, teaching and practical, in a field.

3a4. In many cities the transcripts of teachers are kept in the central office of the school system. Consequently, the words "or system" should be added at the end of the first sentence. Some one suggests that a certified copy of the transcript should be sufficient. This suggestion has merit. One principal thinks that the last sentence in this regulation presupposes dishonesty or inability to evaluate a transcript on the part of the administrative head of the school. *Little does he realize how many discrepancies are found between the data reported on Form B and those on the actual transcripts.* Still another suggestion is that college registrars should be asked to total the hours in Education and the hours in each of the major and minor fields. A principal asks if the credits furnished by teacher placement bureaus would be adequate. And then there is the man who says that, so long as minimum standards are met, it is unnecessary to record all

the hours of preparation of a teacher on the annual report blank.

3b1. More comments and criticisms have been made of these sections that deal with the librarian than for any other regulation. The chief lament is that it is well nigh impossible for most schools, especially the medium-sized and small ones, to obtain a teacher of any kind who has had any hours at all in library science. The principals also claim that the colleges in their state offer very little or no work in library science. A natural corollary is that no teacher in such a state can qualify for this regulation. Furthermore, in the small schools it is difficult to allow the teacher-librarian to spend two periods daily in the library because of an already heavy teaching load. *Probably the North Central Association should embark upon a plan to educate its principals in the purposes of a library in the modern secondary school.*

3b2. The attitude of many principals can be summed up in this remark: "This criterion is the most difficult of all to meet in small schools." Here follows a list of the most frequently occurring comments. "I am in sympathy with the plan, but it is impossible to enforce." The criterion should not be retroactive. Experience in any kind of library work should be counted in. If fifteen semester hours are the minimum for regular teachers, fifteen semester hours should suffice for the librarian. North Central Association approved colleges should require at least a minor in library science for all English majors. More colleges should offer courses in library science during the summer session. Requirements in professional Education should be waived for the non-teaching librarian. It seems that the following states are especially lacking in offering opportunities for library training, Arizona,

Nebraska, Iowa, Colorado, Arkansas and Oklahoma.

3b3. The word "adequate" should be defined more explicitly. In large schools assistant librarians should be adequately trained. There should be a critical point in a school's enrollment or in the use of the library where an assistant librarian is badly needed.

3c. The North Central Association should set the minimum requirements for all member schools to be determined by careful study. These should not vary for the different states. One principal asked this pertinent question: "Suppose a given state has no requirements for this type of personnel, then what?" One man believes that this regulation borders on socialized medicine, while another one says that someone must start the movement. Until the Association has made a thorough study of the qualifications of physicians, etc., this regulation should be worded in general terms and placed among the criteria.

3d. Several men have seriously stated that they would just as soon have intelligent adults who can soon master the necessary office details. In many small high schools the use of junior and senior students is the only means of securing office help. In Chicago the clerical staff is on civil service. Some would like a clearer definition of what is meant by "adequate assistance." One man says that this regulation is none of the North Central Association's business. *Does he know how many principals there are whose work is so ineffective because they do so much of their own clerical work?* This is a good question: "What clerical help should be made available to schools of different size?" This regulation should not be retroactive.

3e. The same man who said that *3d* was none of the Association's business repeats his statement for

this one. Again we have a common thought that there is over-emphasis on state control, that this regulation should include minimum qualifications which should be the same for all member schools.

4a. There are so many varied comments on this regulation that the best procedure is to list them as they seem to occur most frequently. It should not be retroactive. If a man does not have a Master's degree, equivalency should be substituted for the degree. The possession of a degree does not guarantee an adequate school administration. Two year's teaching experience is not enough. A course in school finance is not necessary for a high school principal. In a small school the second in command should not be required to have the Master's degree. Two years as an assistant administrator would be a valuable experience. One man says that the standards should be left as they are, and another one says we are not yet ready for this regulation. *Under what criteria do these men suppose we are now operating?*

4b. Again we find the claims made that the possession of an advanced degree does not insure a good administration, that equivalency should be permitted, that two year's teaching experience is insufficient, and that this regulation should not be retroactive. In the case of private schools that come under the jurisdiction of a president, special consideration should be given to the fact that his preparation may not harmonize with this regulation. There are those who believe that a superintendent should possess higher qualifications than those of the principal. One says that graduate work should be recommended but not required. *How would his point of view accord with the advanced degrees that teachers themselves are now acquiring?*

4c. Here we have those who say that graduate work should be recommended but not required, that equivalency should be counted, that the regulation should not be retroactive, and that experience should take the place of graduate work. Other suggestions are that the title should be changed to "Supervisory and guidance assistants," that the recommended courses should be defined more specifically, that there seems to be no reason for the difference in courses listed here and in 4a, and that such an assistant should have at least ten hours for each field in which he works.

5. There are interesting variations in the opinions as to what should constitute a school year. The main difficulty centers around the adjustment that should be made for those extra days that custom has included in the school year. These days are the State Teachers Convention, Labor Day, Thanksgiving, Lincoln's Birthday, Washington's Birthday, and Memorial Day. Then there is the question of adjustments for weather and epidemics. *This last problem is usually handled as an individual case in the light of Policy 8.* One man suggests a minimum of 170 days or less in order to provide for emergencies. Another one states that it is difficult to get 172 days into a 36-week year, while several others believe that the set minimum should be 180 days of actual classroom teaching. The principal of a large evening high school says that his school is in session thirty-six weeks, three nights a week, and one full hour for each period. He claims that the students are adults and assimilate faster and better than high-school students. A university high-school principal claims that the common school year pattern in many private schools calls for a shorter school year than the 172-day minimum.

6a. There is no hard and fast agreement on this regulation. Some have suggested that a minimum number of minutes per week should be set rather than a daily limitation. One principal points out that this regulation is inconsistent with the 172 days minimum permitted in Regulation 5. In the last sentence the word "hour" should be changed to "period."

6b. Most of the discussion on Regulation 6 concerns this section of it. Previously published regulations have made no mention of the lengthened period. In other words, this is the first time that the Commission has taken cognizance of this alternative. Consequently, the comments are numerous and varied. One pertinent question is, "Should the length of the school year be related to the length of the daily period?" In other words, if the school year consists of two hundred days, would 50-minute periods be permissible? Catholic schools are faced with the problem of giving a required half-hour every day to religious instruction. Principals of private schools would like to know if that part of the evening spent in supervised study should be counted as class time under this regulation. *A problem like this one, even though it is entirely reasonable, entails that much more work in the office of the state chairman. It means that each report has to be analyzed separately because of varying practices and that there must be someone in the chairman's office who is well acquainted with the particular liberties that have been allowed any school. The chairman himself is a busy man, with other duties to perform. In states where there is a membership of a hundred or more schools it would almost necessitate the employment of a permanent, full-time clerical assistant to handle the work of the office.*

One man suggests the use of the

formula: number of minutes \times number of periods = 7,200. *He misses entirely the purpose which the lengthened period supposedly serves.* Because of the outside requirements with respect to vocational courses many schools combine the short and long periods; e.g., three 55-minute periods in the morning and four 45-minute periods in the afternoon. One man wishes that the vocational restrictions would be removed so that his school might be free to operate its schedule as it elects. One wishes to have "directed study" defined. He says that it has too many different meanings to different people. Another raises the challenge as to when young people are to learn to come to grips with the problems of life. He believes that independent study should be encouraged, not discouraged. The principal of an experimental school says that this regulation does not take into consideration unconventional programs that involve a core program. The principal of one of our extremely unconventional schools says that there is a mathematical inconsistency in this regulation. It says, states he, that 55 minutes = 80 minutes and 15 minutes = 40 minutes. A 40-minute period is supposed to involve an equal amount of outside preparation. A 55-minute period, however, includes outside preparation. Mathematically, he concludes, it is hard to explain. *Figure that one for yourselves.*

7a. The main comment is that additional activities have now been taken into the school program, such as physical education, so it should be seventeen units instead of sixteen. Only one man expressed himself in favor of fifteen units, and another claimed that the upper four years should always be considered in the computation of units.

7b. Only one principal objected.

He stated that this regulation was inconsistent with Regulation 5, in which 172 days is the minimum.

7c. This regulation is new. It is an attempt to combat the rigidity of the standardized unit basis for earning credit and to recognize a more flexible method, that of standardized test equivalency. The most common criticism is that Regulations 7c, 7d, and 7e are inconsistent with Regulation 9. The same opinions will be found expressed under that regulation. The principals seem to feel that acceleration is encouraged here but discouraged there. Several question the advisability of using any tests. They believe that certain tests should be designated in that certain definite tests should be predetermined by the Association. Otherwise, the tests are subject to abuse such as using any type of test and giving wholesale credits by examination. It is a wise provision, if carefully administered. Some would have their use allowed at first only on an experimental basis. Others believe that credit obtained this way will make teachers more subject-minded than they are now.

7d. There is some overlapping in the content of the responses to the last three parts of Regulation 7. Some of the same comments are made for two or three of them, but they come from different principals in different states. One man asserts that the import of this regulation has always applied in all schools, which should have a liberal discretion in the choice of tests. *Hasn't this principal overlooked the significance of this regulation?* One man isn't sure of credit by testing alone. Another believes that such students should be placed on a year's probationary period. It is suggested by one that the Association provide a set of standard tests for this purpose, while another thinks that some uniform method of evalua-

tion should be included in the regulation. More than one questions the validity of the G.E.D. tests. One principal wonders if colleges will accept such test results as credit equivalents.

7e. An interesting comment made by principals of private schools in six different states is expressed in the words of one of them: "The Association should no more specify the tests that may be used than it should specify the grade that may be attained, the textbooks that may be used, or the courses that may be taught." No principal of a public high school made such a statement, at least not for the record. One of the above several principals says that the Association would be subject to pressure groups of publishers and individuals and needlessly restrict the freedom of the school. *We may well ask which is preferable, if pressure is to be brought, to have it brought on the Association or on the individual school? Which one, probably, might have the better judgment as to the validity of a certain test, the Association or the individual school? And, if there should be any degree of uniformity in the twenty states of the Association in the matter of the transfer of such credits from one state to another, which might be more acceptable, an Association approved test or one approved by the individual school?* Objection has also been raised against the use of "this" in the second line, with the recommendation that 7d and 7e be interchanged.

8. In the attempt to state a general principle in succinct terms we succeeded in being too terse, because so many principals said that this regulation was not clear. The most startling misconception of what was implied was that it meant one more teacher than the age of the school, i.e., since it was organized. *Evidently, these people failed to try to figure out what was meant, viz., that a three-year school should have four full-*

time teachers, a four-year school five full-time teachers, etc. One constructive suggestion was that the words "full-time equivalency of all teachers" be substituted for the words "full-time teachers." Some claimed that there was no relationship between the size of the school and the quality of the work done. One would like to see some leeway permitted depending upon the enrollment and the number of subjects taught by the superintendent. Another says that the enforcement of such a regulation will result in the dropping out of his state from the Association. He is seconded by one who states that this regulation makes it increasingly difficult for small schools to meet the regulations and criteria. *Do these men realize that this regulation is by no means new, and that it has been a regulation for many years?* On the other hand, there are those who are emphatic in declaring that adequate education cannot be offered economically with fewer than ten teachers and 175-200 pupils.

9. Most of those who expressed themselves on this regulation said that they preferred the old Regulation 9 to this one. They think that the new one conflicts with Regulation 7 by excluding qualitative acceleration of students. *They seem to overlook the last sentence in this regulation. Furthermore, it was not the intention or chief purpose of Criterion 7d to deal with problems of acceleration.* One principal went so far as to say, "We do not recognize exceptional cases—a student takes four years in a four-year school." In the fourth line, the word "or" should be substituted for the word "and."

10. This regulation seems to encounter some difficulty in those states where the number of teachers employed is based on average daily attendance. *Isn't this because there is a misunderstanding as to what constitutes*

a minimum? If state aid is based on average daily attendance, why should a community not feel free to spend more money for extra teachers if, by so doing, it might improve the offerings of its school? In one city there is a rule that allows as many teachers as the enrollment divided by 28. Then, if one department is overstocked and another understocked, teachers are transferred from the first department to the second. In another city this regulation would force all the schools out of the Association. The periods are fifty minutes in the clear, with half credit for all non-prepared subjects, and the normal teaching load is six periods daily. Several principals said that a definite departure should be made in the case of the short-period day and teachers of shop. A load of eight shop periods should be considered normal for these teachers. Some principals would also like to see exceptions made for teachers of physical education, music, and typewriting. The small schools were almost unanimous in declaring that the enforcement of this regulation would work a definite hardship on them. One man said, "We consider six periods a normal teaching load, thirty pupils not too many for a class, which makes 180." Others said that it was only fair to assign a teacher five classes, a study hall, and an extracurricular sponsorship. Several considered the regulation a desirable one, but that it was not practical until more money and teachers are available. Catholic schools asked if, where a staff resides on the premises, a load of more than seven classes a day might not be allowed. Although they did not mention the Douglass formula, there were those who proposed that a different weight be accorded a study-hall period and an extracurricular sponsorship. There were none who took up the cudgels

for or against the giving of any consideration in determining teacher load in connection with work on special committees.

One constructive suggestion came from a high-school visitor. He proposed the deletion of the sentence beginning: "The desirable maximum equivalency" and ending, "lengthened period schedule," and the substitution for it of these two sentences: "For the short period schedule (less than 55 minutes net per period) the maximum equivalency of a combination of such duties is six periods daily, including study hall assignments. For the long period schedule (55 minutes net or more per period) the maximum equivalency of a combination of such duties is five periods daily, including study hall assignments. At the discretion of the State Committee a teaching load in excess of either maximum may be considered a violation of this regulation."

A state chairman proposes the use of the Douglass formula for finding the teacher load. "Otherwise," says he, "I fear that the whole thing is rather vague."

11a. *Again we find a misunderstanding. In correlating sections a and b, some principals think that the \$200 in section a is a base sum, to which the amounts in section b are added. This interpretation may be due to the words "in addition to this amount" which introduce section b.* In one state there is a law requiring that only \$3.00 be expended per pupil in average daily attendance for all school, janitor, and library supplies. Many think that the minimum amount is too small; others that it is too high for small schools and too low for large schools. Then, there is the question as to the inclusion of maps, pictures, film strips, films, slides, etc., in the expenditures for the library. There are also those schools who have

easy access to and make good use of a public library. Small schools will have difficulty in meeting this regulation. *Do these schools ever stop to consider how little can be obtained for \$200 if books and magazines only are purchased?*

11b. Should the same amount be expended for library purposes year after year? May it not be that these needs vary from year to year. Then there is the repetition of the claim that the scale of expenditure is too high or too low. Borderline cases present a problem to some principals. According to a literal interpretation of the scale, a school of one-thousand would spend \$500 while a school of nine-hundred would spend \$675. *That's the trouble with literal interpretations. The sole intention of this scale of expenditures is to serve as a guide to what approximate and sensible expenditures might be, but only in the light of the needs of each particular school.*

12. There was very little adverse comment on this regulation. One principal said that a school should not be marked down because of "its financial status," while another asked, "Is a district to blame if it is relatively poor and unable to meet the standards?" *About the only reply that can be made to such a question is, "Why should any such school be a member even of the North Central Association?"*

CRITERIA

1a. *From some of the comments that were evoked by this criterion it seems desirable that sections a and b be interchanged.* Here are the reasons.

Indefinite and impractical.

It becomes static as soon as it is written and printed.

It may put pressure on schools to think up a philosophy, but I doubt if such a process will improve anything.

I doubt if you will find any of our schools that can qualify under this criterion.

Is anything gained by copying a philosophy of education from some text?

I dread the day when we formalize, and when committees begin to try to evaluate statements of philosophy and to prescribe the number of objectives that should be included.

Any school can write a philosophy, but there is no assurance it will ever be carried out.

It is impossible to write a philosophy that is less than textbook length.

The religious element must be included.

Since many of the new criteria are based upon the Evaluative Criteria, it does seem that the principals who expressed themselves in the above statements are not acquainted with the Evaluative Criteria nor with philosophy upon which it is based. This philosophy is supported in statement three of the Guiding Principles: "A school should be judged, in so far as possible, in terms of its own philosophy and the purpose which it serves in its community." That is why it might be advisable to label criterion 1b number 1a, inasmuch as it is impossible for any school to formulate its so-called philosophy except in terms of an analysis of its pupil population and school community. The last sentence of Criterion 1b would naturally lead up to the criterion that deals with the school's philosophy.

1b. Since both Criteria 1a and 1b owe their inclusion directly to the Evaluative Criteria, what answer can be directed to the principal who says, "I disagree with the assumption that the Association should have any control over the philosophy of a member school, and I insist that 1b is a step toward control?" No one has ever claimed for one moment that the Association is going to exercise control over the philosophy of a member school. What it is interested in doing is to discover whether or not the school is trying to live up to its own philosophy. To the man who asserts that the second sentence in this criterion is "surplusage," the challenge might be raised, "Are you an isolationist?"

2a. The main problem on the part of those who had any comments to make seemed to concern private and religious schools. It is expressed by one of them thus: "Is there no place for the cultural non-vocational school which does not offer to its public what they do not require of it?" Another one states, "There are several schools existing for no other purpose than to prepare prospective college students." That seems to be a pretty small order in view of the fact that these same students also will be called upon to fulfill their function as citizens in a democracy. A cynical comment is: "There is no point in thinking that overworked teachers can throw in a little time on the side and accomplish much in the line of curriculum construction. Is this just nice talk, or can it be directing policy?"

2b. The general tone of the comments shows that those who voted against this criterion labored under a cloud of misunderstanding or misapprehension with respect to the intentions of the criteria. The original wording as taken from the Evaluative Criteria was modified by the revision committee in such a way as to lose the significance of the philosophy of the pupil activity program. In its efforts to be brief, the committee said what it surely did not mean to say. The original statement read as follows: "Since the curriculum comprises all of the experiences which pupils have while under the direction of the school, there can be no rigid dividing line, educationally, between the usual classroom activities and those activities sometimes called 'extra-curricular activities' which commonly permit more freedom and are largely initiated and directed by the pupils themselves. There is need for pupil participation and expression in experiences which are more nearly like out-of-school and daily life experiences than are the

usual classroom procedures. The pupil activity program should aim to develop desirable social traits and behavior patterns in an environment favorable to their growth and, in general character, so similar to life outside the classroom that a maximum carry-over may be expected. Under competent guidance pupils should share responsibility for the selection, organization, and evaluation of such activities and of their probable outcomes. In all such activities the development of leadership ability in pupils should be one objective. Opportunities for exercising leadership should therefore be abundantly provided."

If the original is compared with the condensed and blunt form, it becomes rather clear why principals reacted as they did.

It is carrying a good thing too far to say that students will actually participate in the school administration as the term is ordinarily defined.

We do not want to support a requirement making more or less mandatory the release of administration functions to pupils.

Pupils should not be *required* to participate in the administration of the school.

It should read "participation in the administration of suitable school functions."

It is also desirable that the faculty have a voice in management.

The extent to which pupils would be permitted to participate should be clarified or limited.

These statements would probably not have been made if the original wording had been preserved.

2c. No comments.

2d. The only objection that was at all common was that there was too much emphasis on "organized activity" in the guidance program, especially in small schools. Another was not so much an objection as a question, "Do we have enough trained teachers for this type of work?"

2e. The second paragraph of this criterion is one of the oldest in the history of the Commission. In the recent editions

of the Criteria it has held the number one position. Practically no opposition was expressed against it. Three religious schools said that the term "desirable" should be construed as consonant with the objectives of the school. One principal said that schools cannot always be held responsible for the attitudes of pressure groups.

2f. In order to evaluate outcomes we should have some way of checking and finding out the evidences that such outcomes are being realized.

3a. Such comments as were made stress the difficulty of complying with this criterion during these days of teacher shortages. Other statements that might help to clarify the criteria are herewith listed.

This depends upon a definition of scholarship. Teachers of shop, commerce, and music have a type of scholarship that comes with competence in the field not measured by scholastic standards alone.

What is meant by giving evidence of "continuous professional growth?"

I object to and deny its validity, if it means continual taking of college courses, required summer enrollment, etc., as chief evidences of professional growth.

A specific recommendation on pupil-teacher ratio would help the administrators justify the necessary instructional staff.

The reviewing committees should consider more kindly the recommendations of a State Committee in the light of Policy 8.

3b. Here we have a repetition of the type of comment made on Regulation 3b, viz., that compliance with it is practically impossible for small schools, and that successful teaching experience need not be required of librarians. *Those who voice this latter opinion must be thinking in terms of a very local situation where the librarian does no classroom teaching.*

3c, 3d, and 3e. Since these three criteria treat of services that have not hitherto been included in the *Criteria*, and, since the responses were rather

few in number, they will be treated together. The question of adequacy is raised and how it is to be measured. Small schools will have great difficulty in providing health personnel, but the Association should take the lead in stimulating schools so as to make them more conscious of these needs. As to the clerical staff, the requests were that the Association specify the kind of clerical help that should be available in schools of different sizes. Two good questions are asked about the custodial staff. How about a specific recommendation regarding pupil-janitor ratio? Would it be possible to set forth minimum requirements for a school custodian?

3f. Opinions on this criterion range from those which state that the health examination is not the business of the Association and is an unwarranted violation of tenure, to those which say that the Board of Education should provide for such an examination for pupils as well as for teachers. Some of the more moderate statements are presented here.

It is better to ask teachers to have a health examination when there is a need.

We favor such an examination for new employees.

It should be required when there is a suspicion of ill health.

It should be part of a teacher's contract that an examination is necessary when the local board feels a need.

Such an examination should be given every year preceding the opening of school.

"Periodically" should be stated more definitely as to the length of time involved.

Here are the more negative reactions.

Doctors make only a perfunctory examination. It is no good unless we establish criteria for disqualification.

This criterion is loaded with dynamite.

Until people in other lines of public service are subjected to the requirement, I don't think or feel that teachers should be.

A health examination is the responsibility of the individual.

This criterion could be used to discharge teachers.

It is not necessary for small, private schools.

It should not be required in small schools until facilities are available.

It can be used to the detriment of the employee.

4a. Any argument caused by this criterion comes largely from private schools.

It does not appear to allow for individual differences that prevail among private schools.

It is inapplicable to a world-wide [Catholic] organization, such as ours.

The administrative organization, for schools conducted by religious [*sic*] cannot be on such a simple and clear-cut plan. Directives from state, diocesan, and religious authorities are in substantial agreement, all aiming at improving the educational situation.

What about the case of a university high school not under a board of education?

4b1. The second sentence in this criterion is the one that is challenged several times. Several principals are in agreement that the statement of policy need not necessarily be published.

The board may not want to make public certain policies.

The time is not quite ripe for such a publication. More education is needed as to the value of such a procedure.

Is it a general policy, or does it include specific items? Is it rewritten from year to year?

It sounds good but the board is a political body and has the privilege of changing its mind.

4b2. Here the only comment is, "In Catholic school systems the hiring and firing of employees is left to the advisory council of the individual school."

4b3. The contrast between practices in private and public schools is brought out in the following statements. "It should not be applicable to private school systems." "In the case of voluntary teachers in a religious community the employees have frequently to be dismissed or their work changed."

Other questions asked deal with the propriety of a public hearing. "How can such matters be made a part of the

public record and still avoid unfavorable publicity?" One claims that the tenure bill covers this situation. *How many states have such tenure laws in effect?*

4b4. The word "system" should be added after the word "school." *The reason for this recommendation is that in large cities the administrative head who attends the board meetings is the superintendent of the whole school system.*

4b5. Two suggestions are offered. One is that the word "only" should be inserted after the word "employees." The other is that this criterion is good as a general principle, but that "other staff members should be freely accorded the right—perhaps with the approval of the administrative head—of presenting their problems to the board."

4b6. The only challenge to this criterion comes from those schools where there is an independent business manager.

4b7. Some modification in this criterion is asked by representatives of private schools, whose members of their boards of trustees come from cities all over the country. They believe that the statements about boards of education do not apply to their set-up. *By a liberal interpretation of this criterion, the "supporting public" of a private school can be its clientele, wherever located.*

4c. No comments.

4d. With exception of one comment that asks if a transfer of teachers in a closely knit system [Catholic] would be interpreted as indicating instability of organization, all the other challenges are directed to the second paragraph.

The inclusion of the second paragraph is neither wise nor expedient.

The board of education, in most states in this area [Arkansas], is the supreme local authority for the management of the schools. The adoption of this paragraph might result in frequent cries

of "interference" by an administration of the school.

I doubt the advisability of the North Central Association entering into official visits. The N.E.A. serves this purpose.

An outsider not familiar with the background of the problem would hardly be in a position to appraise the situation on its true merits.

If this school is a member of the North Central Association, what part does he suppose his State Committee and State Chairman have in the picture? Others wonder how "interference" should be defined and how the "attitude and support of the community" will be determined.

4e. The principal of the small high school is too limited as to his free time to do much in the way of supervision. This comment comes rather surprisingly from an "educator": "Personally I abhor supervision but accept it as a necessary evil."

4f. This is the old Criterion 10b transplanted bodily as Criterion 4f. *Although it became a criterion because of the insistence of the principals themselves, there still seem to be those who claim that this criterion is not in keeping with the general philosophical policies of the North Central Association.* Representatives of Catholic schools feel that some modification should be made for their schools, because they conduct their own inter-school activities programs. One principal seems to be laboring under some sort of misapprehension when he says, "Control should rest on standards rather than on buck-passing. This criterion gives to the North Central Association police or punitive powers rather than setting up of standards, or a philosophy of administering a program." *What can be his conception of ways in which the standards he proposes may be enforced?* When one principal says, "Anything in the State sponsored by their State Activity Association should be followed by the schools of that State," he doesn't

realize that only a few states in the Association have such an activities association.

Two very constructive suggestions were offered. The following sentence should be added, "It shall be the responsibility of the State Committee to furnish its member schools with a list of approved contests, etc." The other is that "State Committees should give prompt action upon requests for conducting activities." There should be a comma after "contest" in line four.

4g. Too broad, too detailed, vague, and impractical are the adjectives used to describe this criterion, because the principals who employ these terms say that some of the data asked for in such Criteria as 1B, 2A, 2E5, and the first paragraph of 3A do not lend themselves to a record system. *A possible explanation is that these principals themselves interpret the criterion too broadly.*

5a. There are no objections to this criterion, but there are some provisos. In New Mexico, e.g., everything in this criterion is related to the direct charge fund, as it is called. Some others state that their present location makes it impossible to provide playground space. One suggestion is that "perhaps a North Central Association committee could be created which could provide suggestions for minimum standards of arrangement, size, ventilation, and lighting." *He does not seem to object to receiving help from the Association.*

5b1. No comment.

5b2a. The question of accommodating students in the library is the one that aroused comment. Naturally it came from the principals of large schools who raised the following questions. "Is not 10 percent an unwarranted waste of space in a boy's technical high school?" "In a school of 5,000, isn't 5 percent better?" "Should not the seating accommodations be scaled according to the size of the school?" "Isn't the num-

ber of students accommodated in the library at one time adjustable to the number of periods?" "Is not the specification of 10 percent dangerous, since this depends on the size and internal organization of the school?"

One principal thinks that the library study hall should be on its way out, and another says that departmental and room libraries might be used to better advantage.

5b2b. Only three worth-while comments are recorded on this criterion.

In small schools some of the records mentioned may not be necessary.

I question the use of the word "standard." Classification systems which may not be standard may meet most needs of small schools.

There is incomplete agreement on the use of an accession list. The shelf list may serve the same purpose and avoid duplication.

5c. One principal says that wash bowls and lavatories are often not available in sufficient numbers in proportion to the enrollment of the school. Another man believes that this criterion should be made a regulation.

5d. One principal proposes that every student should be insured for accident, the insurance to be paid by the board of education.

5e. "It is a mistake," says one principal, "to omit the word 'textbooks' from the list."

5f. *Here is another instance of failure to think along broad lines, in that principals of public high schools ask why they should provide sleeping quarters. They just didn't consider that many schools belonging to the North Central Association are private schools which, of necessity, have dormitories.*

5g. "No school," says one principal, "should be asked to make an annual inventory of all equipment and supplies. Once every three years should be adequate. It is a difficult and almost endless task." To the man who says, "When records go back 35 years or

more and are rather bulky so that it takes a large safe to accommodate them," we might suggest the use of micro-film.

CONCLUSIONS AND RECOMMENDATIONS

From the statements made by the principals it seems possible to make two general conclusions: many are not aware of the content of the present *Policies, Regulations, and Criteria for the Approval of Secondary Schools*, nor do they know anything about the *Evaluative Criteria* as developed by the Cooperative Study of Secondary School Standards. In fact, the principals of one state sent up a call for assistance in the use of the *Evaluative Criteria* in their state. The submission of the revision material has, therefore, taken on the aspects of an attempt to acquaint the member principals with the work of the Commission on Secondary Schools. In other words, the Commission has just completed a program of educating its constituency in the fine art of accreditation.

Because so many excellent suggestions have come from the principals it is well worth while to take these suggestions and incorporate them into recommendations for emending and improving the revision upon which they passed judgment. These recommendations will follow the same order in which the *Regulations* and the *Criteria* have been considered.

Regulations

1. It might be well to postpone to November 15 the date on which the annual report blank must be in the office of the state chairman.

2. If a school actually is a six-year school, it should report on all six grades. The fallacy of not so doing is found in the incongruity of the report on the annual blank of salaries and full-

time teachers. Some provision should be made for type II Junior Colleges.

3a2. A time limit might be included for meeting the qualifications of this Regulation on the part of private schools.

3a3. Should we go back to a blanket requirement of so many hours and forget about the requirements in States higher than those demanded by the Association? Should credit be given for high-school work in typing and shorthand, just as for mathematics and foreign language?

3a4. The words "or system" should be added at the end of the first sentence. Another statement might be included such as, "A certified copy of the transcript will be acceptable."

3b. More time should be allowed before this Regulation goes into effect.

3c, 3d, 3e. The same requirements should be set up for all states. At present this is impossible.

4a. This criterion should not be retroactive.

4b. The organization of private schools should receive consideration.

4c. The title should be changed to "Supervisory and Guidance Assistants."

6a. In the last sentence change the word "hour" to "period."

6b. Unconventional programs are not recognized by the wording of this criterion.

7d and 7e should be interchanged in order to maintain a logical order.

8. An illustration might be given. "Full-time equivalency" should be substituted for "full-time."

9. In the fourth line the word "or" should be substituted for "and."

10. Introduce the use of the Douglass formula.

11a. The wording should be clarified so that the amount in B is not expected to be in addition to the \$200 stated in A.

Criteria

1a and *1b* should change places. The new position will emphasize the necessity of studying the local community before any set of objectives can be developed.

2b. The original wording as taken from the *Evaluative Criteria* should be restored in order to present a more evolutionary point of view with respect to student participation.

2d. Probably the word "organized" in the first sentence should be deleted, since it is repeated in the second sentence.

4a. Some statement should probably be incorporated to the effect that school systems under private and religious control will be accorded suitable consideration.

4b1. What interpretation should be given to the word "published"?

4b3. Should this Criterion be applicable to private and religious school systems?

4b4. The word "system" should be added after the word "school."

4b5. Insert the word "only" after the word "employees."

4f. There should be a comma after "contest" in line four. Three amendments are offered:

Only one representative from the schools of any one state may represent that state in approved contests, etc.

It shall be the responsibility of the State Committee to furnish its member schools with a list of approved contests, etc.

The State Committee should give prompt action upon requests for conducting activities.

5b2a. Should the seating accommodations of the library be scaled according to the size of the school?

5b2b. There is disagreement on the use of an accession list. Should a "standard" system of cataloging be limited?

5e. Include the word "textbooks" with the list.

Some of the above emendations or proposals should meet with the general approval of Association members. They are herewith transmitted to the Revision Committee.

THE FUNDAMENTALS OF MATHEMATICS

By the Subcommittee on Mathematics¹ of the Committee on Fundamentals

CHAPTER I. INTRODUCTION

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THE Fundamentals of Mathematics have been a part of the educational program for centuries. The sheer weight of continued inclusion in the curriculum may not prove value but it does command some respect. It is possible that mathematics teachers have relied upon this veneration and respect too much and, consequently, have failed adequately to interpret the contributions of the subject to laymen, students, and non-mathematics teachers. It is equally possible that mathematics teachers have assumed their place in the sun to be secure and, as a result, have failed to study continuously the content, methods, and evaluation in the light of the demands of an ever changing society. It is not the purpose of this report to define, analyze, evaluate, and criticize the "status quo" of mathematics as offered in elementary and secondary schools. It is the purpose of the report to present some straightforward suggestions on the identification of the elements of mathematics which are considered basic or fundamental to the individual who wants to live successfully in our complex and fast-moving civilization. Furthermore, this statement is designed primarily for those concerned with education at the secondary level. It will be concerned with fundamentals of mathematics which are to be carried forward from the pupils' elementary

school experience as well as those which are to be achieved initially at the secondary school level. Obviously, a well defined line cannot be drawn between the fundamentals at the elementary and the secondary levels. Education is growth and development. Therefore, at both levels, there are problems of initial learning, extension of learning, and maintenance of the learned content whether the outcomes are termed concepts, skills, attitudes, appreciations, judgments, or problem solving.

In this discussion of the fundamentals of mathematics, these assumptions are deemed basic:

1. The pupil will grow to maturity in a world in which (a) quantity is significant, (b) order is important, and (c) precise and well-directed thinking is essential.

2. Mathematics includes many skills, appreciations, and thinking processes which are crucial in successful living.

3. Mathematics provides many experiences which are requisite to the development of skill in logical, relational, and imaginative thinking, as well as precise mathematical skills and appreciations.

4. The fundamentals of mathematics may be described in such terms as concepts, specific skills, general appreciations, thinking processes, judgments, and imaginative experiences.

5. The fundamentals of mathematics are unique to individual students,—unique in that they will vary according to pupils' environment, level of experience, immediate tasks, and ultimate vocational choice.

6. The extent to which mathematics is fundamental to the individual pupil depends upon his interest and capacity to learn, his opportunity to remain in school, his vocational pursuits, and his general and specific responsibilities.

¹ C. L. Thiele, Detroit Public Schools; Floyd W. Hoover, University of Nebraska; Glen G. Eye (*Chairman*), University of Wisconsin.

7. The evaluation of achievements in the fundamentals must be made in terms of the behavior assumed or described in the objectives.

Discussions of "the fundamentals of mathematics" vary according to the point of view of the discussant. Hence, many statements in educational literature appear to be at variance. In many instances, the apparent differences diminish when the statements are interpreted in the light of the points of view of the authors. In this bulletin, there is a conscious attempt to harmonize

the statements of the contributors by establishing the point of view as stated in Chapter III. Each contributor has studied the point of view and presents, accordingly, his discussion of the fundamentals as they pertain to the area of mathematical experiences indicated by the chapter title. The final chapter will present an interpretation of the report in terms of its implications for the organization and administration of the secondary school program.

CHAPTER II. SUMMARY OF SELECTED STATEMENTS ON THE FUNDAMENTALS OF MATHEMATICS

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THE quotations submitted in this chapter are presented because they contain suggestions and implications for the mathematics program and because they provide the framework for discussions presented in subsequent chapters.

IMPORTANCE OF MATHEMATICS IN MODERN LIVING

Few deny the importance of mathematics, which is one of the cornerstones of modern living in a scientific as well as a social world.

In an address given at the Annual Meeting of the National Council of Teachers of Mathematics at San Francisco, February 21, 1942, Professor Congdon spoke as follows: "It was Adolph Quetelet, the great Belgian astronomer who in the nineteenth century said, 'The more advanced the sciences have become, the more they have tended to enter the domains of mathematics.'"¹

In a paper entitled *A Proposal for*

¹ Allen R. Congdon, "Training in High School Mathematics Essential for Life," *Mathematics Teacher*, XXXVI (May, 1943), 195.

Mathematics Education in the Secondary Schools of the United States, Reeve wrote

In this complex civilization which we are now entering, a knowledge of mathematics is becoming increasingly important. This does not mean that everyone should be trained to be a mathematician, but it does mean that every well educated citizen in America should know a reasonable amount of mathematics and also that he should be trained to use it in an intelligent manner.²

In the same essay Reeve also wrote,

If many of the present-day ills of this country could be traced to their origin the cause would be found to be a lack of knowledge of the mathematics underlying the situation or a failure to appreciate its important implications.³

DE-EMPHASIS OF MATHEMATICS IN EDUCATION

A curious kind of paradox made its appearance during the latter part of the 1920's in particular. In spite of the fact that the United States was the foremost industrial power on earth and

² William D. Reeve, "A Proposal for Mathematics Education in the Secondary Schools of the United States," *Mathematics Teacher*, XXXVI (January, 1943), 11.

³ *Ibid.*, p. 11.

had extensive need and use for mathematics in industry and research, mathematics received progressively less emphasis in the elementary and secondary schools.

Another pertinent feature of the pre-war situation was the fact that the unfavorable attitude with respect to substantial mathematics in high schools was entirely inconsistent with the increasingly technical nature of industry and our whole American civilization.¹

Douglass remarked:

In an interesting paradox to this very marked increase in the mathematical needs of all of us, there has been a constantly decreasing percentage of children in school above the eighth grade studying mathematics. It is worth noting that in 1910 more than three-fourths of all high school students were enrolled for a class in mathematics while in 1940 the proportion of high school pupils enrolled for a class in mathematics is less than one in three.²

In his essay, "Influence of the War on the Teaching of Secondary Mathematics," Breslich wrote:

In many ways the attitudes toward mathematics before and during this war resemble those of World War I. In the years preceding each war high school mathematics received much adverse criticism from general educators, from teachers of higher mathematics and of related fields such as physics, from business and industry, and indeed, from the parents of pupils. Many of the educational values claimed for the subject were being questioned and denied. The trend was to discourage pupils from electing the subject. An endless number of schools, ever so many school systems and an increasing number of states reduced or eliminated mathematical requirements for graduation.³

Brownell suggested that public opinion was partly responsible for this shift in emphasis.

Surveys of adult usage made in the past have uniformly shown school mathematics to be a

waste of time and money and have dislodged mathematics from its favored place in the curriculum. These surveys have derived their strength from the fact that the adult subjects consulted did not recognize the mathematics which they actually employed and from the fact that they used much less mathematics than they might have used had they been properly taught.⁴

RESULTS OF DE-EMPHASIS

As a result of this de-emphasis of mathematics persistent criticisms have been lodged against the elementary and secondary schools concerning the defections in mathematics which their products exhibit.

Numerous studies have shown justification for the persistent criticisms that a large percentage of high school graduates is poorly grounded in arithmetic. To the complaints of the industries, business men, teachers of various school subjects and teachers of the later courses in mathematics, we may now add those of the Army and Navy.⁵

The Committee which was established to study essential mathematics for minimum Army needs has this to say:

The second fact, equally important and equally certain, is that the typical inductee does not have the training in mathematics which he needs. An accumulating, if distressing, body of evidence supports this second statement. When only one inductee out of four can select the correct answer from four suggested answers for, 5 is 20% of what number; when only one in three can select the correct answer for, $7 - 5\frac{1}{2}$; and when only one in four can select the correct answer for $.32 \div .64$; under these conditions it is clear that the inductee is ill prepared to cope with the quantitative situations he will encounter in his basic training in the Army.⁶

They (army officers) say that many enlisted men, even those who seem to be able to obtain correct answers in abstract computation, are unable to think quantitatively. That is to say, they cannot use in practical situations even the limited skills which they possess.⁶

¹ William L. Hart, "The Nation Calls for Mathematics," *School Science and Mathematics*, XLIII (February, 1943), 113.

² Harl R. Douglass, "Mathematics for All," *Mathematics Teacher*, XXXV (May, 1942), 212.

³ E. R. Breslich, "Influence of the War on the Teaching of Secondary Mathematics," *Mathematics Teacher*, XXXVII (November, 1944), 291.

⁴ William A. Brownell, "Essential Mathematics for Minimum Army Needs," *School Review*, LII (October, 1944), 492.

⁵ Breslich, *op. cit.*, p. 293.

⁶ Committee Report, "Essential Mathematics for Minimum Army Needs," *Mathematics Teacher*, XXXVI (October, 1943), 245.

Breslich summarized the typical criticisms as follows.

The following are typical of the criticisms [of the teaching of mathematics]:

1. High School graduates are weak in the fundamentals of arithmetic. A large percentage of the students in training courses has not mastered the important facts and principles of arithmetic, all of which are supposed to have received much emphasis in the elementary school.

2. The students' preparation in the basic concepts and processes of algebra and geometry is poor. As in arithmetic the basic ideas are not understood, and therefore not retained, although they are in almost constant use in courses in mathematics.

3. Because the underlying principles are not understood, the tendency prevails to perform algebraic processes mechanically. They do not seem to have been learned but only memorized. Students do not remember them.

4. Schools do not develop the ability of clear and correct thinking in mathematical situations. The students have not the power to think through mathematical situations to form correct judgments, to make clear decisions and to draw logical inferences.

5. Students are inaccurate and lacking in thoroughness. They do not have confidence in their results. When speed is required accuracy decreases.

6. The students are not able to use the mathematics they have learned. They do not know how to apply their mathematical knowledge when they encounter unfamiliar situations.

7. Problem solving ability is low. Students lack the reasoning power to solve simple quantitative problems.¹

All these criticisms were brought into sharp focus by a letter written by Admiral Chester W. Nimitz to Professor Louis I. Bredvold. In substance Admiral Nimitz wrote:

A carefully prepared selective examination was given to 4,200 entering freshmen at 27 of the leading universities and colleges of the United States. Sixty-eight percent of the men taking this examination were unable to pass the arithmetical reasoning test. Sixty-two percent failed the whole test, which included also arithmetical combinations, vocabulary, and spatial relations.²

FACTORS PERTINENT TO THE PRESENT SITUATION

The accusation, clearly, was serious and could not be lightly brushed aside. Experts set to work immediately to determine as nearly as possible the causes for the impasse. In essence, their findings and opinions reveal that retention of mathematical skills and understandings possibly once possessed must inevitably have been lost because of formalism in teaching, unrelatedness of the subject field to every-day living, failure to stress understanding of mathematical operations, failure to apply and use the new skills and understandings in real situations, and, last, inadequate preparation on the part of teachers of mathematics.

It is not possible in the short space available here to do more than sample some of these findings and opinions.

Yet much of the blame for the near eclipse of mathematics must be placed at our own doors as mathematics teachers. We were too content with a formal discipline developed for the gifted few, and refused or failed to temper and adjust it for the many.³

The public schools have not always developed the kinds of practical mathematical ability which are desirable both in the Army and in civil life. Instead, the mathematics period has too often been devoted to the development of skill in abstract computation. As a result the Army finds that many enlisted men who have had considerable work in mathematics are virtually helpless in practical quantitative situations.⁴

Mathematics as we have taught it in the high school has been confined largely, in its practical values, to the vocational needs of a small group of college trained workers—chiefly engineers.⁵

Mathematics as taught in the high school has had little to contribute to the vocational needs of business men, to most types of skilled workers, farmers, or to the common laborer. Workers in these and other fields have found that their mathematical needs called for arithmetic, in-

¹ H. C. Christofferson, "Mathematics That Function in War and Peace," *Mathematics Teacher*, XXXVI (February, 1944), 51.

² Committee Report, "Essential Mathematics for Minimum Army Needs," *Mathematics Teacher*, XXVII (October, 1943), 250.

³ Karl R. Douglass, "Mathematics for All," *Mathematics Teacher*, XXXV (May, 1942), 213.

¹ Breslich, *op. cit.*, p. 293.

² C. W. Nimitz, "Letter to Professor Bredvold," *Mathematics Teacher*, XXXV (February, 1942), 88.

tuitive and constructive geometry, and occasionally the simple algebra. They were supposed to have learned these in the elementary school, but if learned, they had in great part been forgotten. When needed they had to be relearned and extended.

The mathematical needs of the home—diet, economical purchasing, budgeting, social security, transportation, etc.—these did not call for simultaneous equations, the providing of geometric theorems, or for trigonometry. Rather, they called for reasoning and accuracy in the use of arithmetic, of intuitive geometry, and of formulae of the simple type.¹

Our textbook writers often seemed more concerned with maintaining the status quo, with protecting their vested interests, with defending the old values, than with making adjustments to new situations, with selecting and promoting new and needed techniques, with recognizing the need for a meaningful and functional mathematics serving modern society.²

One of the major causes of retarding the progress of students in the special training program was that they failed to acquire an understanding of mathematical concepts and principles. The tendency among the students is to work mechanically by rules.³

Meanwhile two aspects of mathematical learning have suffered, namely, (a) understanding and (b) experience in application.

He [the teacher] has still another task: (3) he must provide ample experiences in application.⁴

More careful work on learning and forgetting in which the tasks set are within the understanding of the learner, has resulted in curves of forgetting of a quite different shape. In these instances there is seen to be considerable retention, even over long periods of time. In the case of mathematics in which all learning tasks can be related to one another so that each successive task involves much of what has previously been learned, the retention could be extraordinarily complete. The fact that retention is so far from complete signifies that the learning was not meaningful to start with—that the learning resembled too closely the sort of thing one person does with nonsense syllables. In these circumstances of meaningless learning, it is not surprising that the curve of mathematical forgetting shows sudden, if not distressing, decline.⁵

¹ *Ibid.*, p. 213.

² Christofferson, *op. cit.*, p. 51.

³ Breslich, *op. cit.*, p. 295.

⁴ Committee Report, "Essential Mathematics for Minimum Army Needs," *Mathematics Teacher*, XXXVI (October, 1943), 245.

⁵ William A. Brownell, "Essential Mathematics for Minimum Army Needs," *School Review*, LII (October, 1944), 486.

The ultimate test of learning is usability. Our knowledge is not truly learned until we can transfer it and use it in situations that differ from those in which it was originally learned. Mathematics is not taught in the public schools as an end in itself or merely to enable students to solve the problems of the textbook.⁶

Students must see sense in what they learn, and they must have plenty of practice in using what they learn in real problem situations.⁷

Teachers can best insure that mathematics will be permanently useful by making it useful during the learning.⁸

The fact that our country is new and that the high school population has increased so fast in the last thirty years (it is now close to 7,200,000) has made it impossible for us to demand as high qualifications for teachers as we should like to have had.⁹

Many people are teaching mathematics in secondary schools of today who have not had any mathematics courses of collegiate grade. The situation is even worse than that in some places.¹⁰

Reeve feels that some of the responsibility for this lack of training on the part of mathematics teachers must be assumed by the teacher-training institutions, for he wrote:

To begin with a rigid, ultra-logical presentation of the subject (calculus) is to discourage almost all students. It is like the old way of teaching a foreign language by devoting the first few months to ultra-technical grammar.¹¹

Because of the length of four significant statements, it is impossible to deal adequately with them through the selection of excerpts. Therefore, the reader is referred to them at the following sources:

"Pre-Induction Courses in Mathematics," *Mathematics Teacher*, XXXVI (March, 1943), 114-24.

"Essential Mathematics for Minimum Army Needs," *Mathematics Teacher*, XXXVI (October, 1943), 234-82.

⁶ *Ibid.*, p. 486.

⁷ *Ibid.*, p. 487.

⁸ *Ibid.*, p. 492.

⁹ W. D. Reeve, "A Proposal for Mathematics Education in the Secondary Schools of the United States," *Mathematics Teacher*, XXXVI (January, 1943), 12.

¹⁰ *Ibid.*, p. 12.

¹¹ *Ibid.*, p. 17.

"The First Report of the Commission on Post-War Plans," *Mathematics Teacher*, XXXVII (May, 1944), 226-32.

"The Second Report of the Commission on Post-War Plans," *Mathematics Teacher*, XXXVIII (May, 1945), 195-221.

Many other valuable quotations might well have been inserted, but these seemed particularly pertinent to the problems to be discussed in this bulletin.

CHAPTER III. THE POINT OF VIEW

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WITH the exception of competence in the subject matter itself, no other factor in the equipment of the mathematics teacher is more critical than is his point of view regarding the function of his subject matter and the learning outcomes which are to be achieved. This statement, admittedly dogmatic, makes point of view an exceedingly practical and not an academic matter, as it is sometimes supposed.

In Chapter I it was suggested that there have been, and there still are, various conceptions of the function of mathematics in the secondary school. Not many decades ago a large place was given mathematics in secondary education because it was assumed to "train the mind" and to do so more effectively than most other subjects. There was nothing impractical or academic about this notion. On the contrary, it had concrete results, and it affected vitally both the content and the methodology of instruction. Doubters of this statement may be convinced on this score merely by consulting the programs of studies in a few typical high schools of 1890.

Other conceptions of the place of mathematics in secondary education could be cited and analyzed. Were there space for this purpose, the analyses would serve to support the ideas advanced in the foregoing paragraphs: (1) there are different points of view with respect to the teaching of secondary mathematics (as also of the teach-

ing of elementary school mathematics); (2) these differing views influence crucially decisions both as to what is to be taught and as to how it is to be taught. Recognition of the truth of these statements led the committee to devote a chapter of this bulletin to "The Point of View."

If, then, point of view is so decisively important, what point of view should high-school teachers adopt toward mathematics?

Fortunately, there is a growing conviction among students of the mathematics curriculum which warrants a fairly confident answer to this question.¹ Mathematics, whatever its particular content, and at whatever level it is taught, is conceived to have two aims: (a) a mathematical aim and (b) a social aim. The mathematical aim pertains to the intrinsic nature of the subject matter itself; the social aim, to the ultimate purpose of instruction.

The two aims may be identified fairly well in the objectives of mathematics as they have been listed in Chapter I. Pupils of high-school mathematics are to acquire various concepts,

¹ See, for example, the recent statement of the Commission on Post-War Plans, a committee of the National Council of Teachers of Mathematics, especially pages 199-202. While the section cited refers most directly to arithmetic, the points made were considered by the Commission as being equally applicable to all levels of mathematical education. "The Improvement of Mathematics in Grades 1 to 14," Second Report of the Commission on Post-War Plans, *Mathematics Teacher*, XXXVIII (May, 1945), 195-221.

skills, appreciations, thinking processes and judgments, and they are to enjoy certain imaginative experiences. For the most part, these objectives, taken together, constitute the mathematical aim of the subject. Yet, these objectives are not to be achieved as ends in themselves; rather, they are to be achieved in order to attain a more remote end, namely, a more effective and more intelligent, a richer, and a happier life in our culture. And this latter is the social aim of the subject.

The paragraphs below will elaborate the meanings of the two aims and will show their implications for instruction. At this point it is well to mention certain cautions. (1) Recognition of the two aims does not call for two different kinds of mathematics, a "mathematical" mathematics and a "social" mathematics. It merely directs attention to two different kinds of purpose which are to be fulfilled through the same mathematics. (2) No choice is to be made between the aims, to stress the one and to neglect the other. Such a choice is possible. Indeed, the choice has been made more than once in favor of this or that aim, to the consequent disadvantage of the learner. (3) In a well-rounded program of instruction the two aims are accepted as mutually interdependent and equally essential, and they are realized together, though, as will be shown later, through the agency of differing learning activities.

To return to the aims as such, and, first of all, to the *mathematical aim*: note once again the subject-matter objectives which the committee proposes as goals for secondary mathematics: concepts, skills, appreciations, thinking processes, judgments, imaginative experiences. Each and every term, interpreted as the committee wants the terms interpreted, sets for the learner the same specific requirement: he must *understand*.

Concepts (hypotenuse, proof, axiom, formula, equation) are not mere words whose definitions are to be memorized as one might memorize so many nonsense words. They are first to be filled with meaning, and these meanings inhere mainly in the relationships and principles of mathematics itself. Skills (adding, factoring, locating data in logarithmic tables) can be learned mechanically, in which case they function imperfectly and soon are lost. Rather, they are to be acquired through the exercise of intelligence, so that later when they are automatized they can be used intelligently.

Even mathematical appreciations involve the same ingredient of understanding; they are accessible only to the pupil who sees sense in what he learns. How, for example, is the high-school pupil to appreciate the beauty of order and balance in the equation if he does not *see* it? Likewise, how is the learner to acquire habits of precise and careful thought about mathematical situations and to make accurate mathematical judgments—how, if he does not possess a grasp on mathematics as an organized body of knowledge? And, finally, how otherwise than through an understanding of mathematics as mathematics is he to engage in sound and valid imaginative experiences of a mathematical character?

In a word, the mathematical aim is a matter of meanings and understandings. From the standpoint of the learner it is attained in direct proportion as he achieves these meanings and understandings. From the standpoint of the teacher it is attained in direct proportion as he arranges appropriate learning experiences for the learner. These learning experiences have their origin in the relationships and connections, in the generalizations and principles, which tie together into unity the countless elements and items which

otherwise would be separate, independent, and functionless. The mathematical aim thus imposes the responsibility of teaching the subject, of whatever content and at whatever level, as a meaningful system of thinking.

But the pupil can attain the mathematical aim without attaining the social aim as well. He does so when he masters mathematics as a closed system, as a narrowly compartmentalized body of knowledge with few points of contact with his life outside the mathematics classroom. Many are the pupils who, given a formula and the needed data, can arrive at a correct answer, but who are powerless to use the formula in solving their practical problems, indeed even to recognize the applicability of the formula to those problems.

And so, we come to the *social aim*. The purpose of secondary school mathematics is not primarily or even largely to produce professional mathematicians. The purpose is to enrich, to broaden, to enlighten the lives of high-school pupils in the culture of which they are and of which they will continue to be members. This aim is attained, so far as the pupil is concerned, to the extent (a) that he becomes sensitive to an ever increasing number of opportunities to use mathematics outside the classroom and (b) that he actually forms habits of so using the mathematics he learns.

If *understanding* is the key word in considering the mathematical aim, then *significance* is the key word in considering the social aim. The mathematical aim relates to meaning *of*; the social aim relates to meaning *for*, and the relationships lie, for the most part, outside the subject in the innumerable "applications" of mathematical concepts, skills, and thought processes. Hence, in the case of the social aim, the

origin of learning activities is to be found in the *uses* to which mathematics is put in our civilization. Learning activities designed to achieve the mathematical aim are therefore only slightly fruitful in helping achievement of the social aim, and vice versa.

Failure to recognize the point just made has led, in recent years, to a good deal of misdirected instruction. Realizing quite properly that secondary school mathematics should make real changes in the everyday lives of pupils, some teachers have relied over-much upon applications and uses to teach mathematics. That is to say, they have sacrificed the mathematical aim to the social aim. Their pupils may have gained new and valuable insights into the way in which mathematics has shaped our culture, but they have not become competent in mathematical thinking. Nor could they, for their learning activities have been differently oriented.

To deny that the applications of mathematics afford a complete basis for instruction is obviously not to deny them a place in instruction. It is simply to point out their inadequacy. They cannot do all that needs being done, any more than the teaching of mathematical understanding is enough. The social and the mathematical aims complement each other; they are the two sides of the coin.

Both aims must be realized through instruction; but they cannot be realized unless their relationships and their differences are thoroughly understood. The more high-school pupils see the importance of mathematics in the work-a-day world, the more ready they *should* be to study mathematics as mathematics. The stronger their grasp on the internal relationships of mathematics, the likelier they should be to recognize applications and to employ mathematics in their lives.

"The point of view" recommended in this bulletin sets a two-fold task for teachers of mathematics—so to present the subject that it will be (1) sensible and, at the same time, (2)

evidently useful. An instructional program designed in accordance with this point of view should help high-school pupils to live efficiently, intelligently, richly, and happily in their society.

CHAPTER IV. THE FUNDAMENTALS IN PROCESSES AND SKILLS

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IN THE preceding chapter, two broad aims were proposed for the teaching of secondary school mathematics, namely, a mathematical aim and a social aim. The two aims were considered to be "mutually interdependent and equally essential" and "are to be fulfilled through the *same* mathematics."¹ In the achievement of the mathematical aim, understanding and meaning were considered to be of paramount importance. The contribution of the social phase of mathematics instruction was indicated to be in the direction of giving significance to mathematics. It is the purpose of this chapter to deal specifically with the problem of fundamentals in processes and skills in the mathematics program of the secondary schools. In the discourse that follows, the term *fundamentals* refers to that which is foundational or basic for mastery in mathematics. Attention is focused on the learner rather than on the subject.

In two rather recent committee reports, the fundamentals of mathematics were listed. The reports to which reference is made are "The Second Report of the Commission on Post-War Plans"² and "Essential Mathematics for Minimum Army Needs."³ The first report aimed to array the common mathematical foun-

dation for intelligent citizenship while the second report listed the mathematical materials of functional competence in mathematics for the armed services. In that a very high percentage of the army jobs for which basic concepts and useful skills were listed have their counterparts in civilian life, it may be said that both reports dealt with somewhat the same problem. Much time and effort might be saved by drawing heavily upon the two reports listed above.

The mention of processes and skills may seem not to be in harmony with the point of view regarding meaningful learning expressed in Chapter III. In the thinking of many mathematics teachers, meaning and understanding contribute nothing to the learning of the processes and skills of mathematics. With them a notion persists that because the processes and skills of mathematics must be habituated they must be learned in the manner in which they are used, i.e., mechanically. Accordingly, processes and skills of mathematics are usually taught by the method of repetitive drill on the level of adult usage. For purposes of teaching, the processes are usually broken down into a series of mechanical steps on which the learner practices. The difference between the mechanical and the meaningful points of view may be illustrated with examples from arithmetic and algebra.

¹ William A. Brownell.

² *Mathematics Teacher*, May, 1945, pp. 195-221.

³ *Ibid.*, October, 1943, pp. 243-82.

Viewed mechanically, the division of 2 by 25 is a matter of placing a decimal point after the 2 in the dividend, and another directly above it in the quotient, adding 2 zeros to the right of the decimal point in the dividend, finding the correct multiplier and placing it in the quotient. Meaningfully, the division of 2 by 25 is that of thinking of the 2 units in turn as 20 tenths and 200 hundredths and then finding that 200 hundredths separated in 25 equal parts yields 8 hundredths for each part.

Likewise, subtracting a negative 2 from a positive 4 may be learned mechanically or meaningfully. When learned mechanically, such subtractions are related to the simple rule of "change the sign of the subtrahend and proceed as in addition." The meaningful approach to learning to subtract a negative 2 from a positive 4 would be to view the subtraction as that of finding the difference between the subtrahend, located 2 units or steps below or to the left of 0, and the minuend. Obviously, it would be six units or steps in the positive direction.

Although the goal under both types of teaching, mechanical or meaningful, is to cause the learner to habituate processes and skills, there is a difference in the manner in which the goal is achieved. One approach provides directions and explanations in the form of rules and models and practice on the adult level. The other is concerned with principles, concepts, generalizations, meanings and the like, which give sense to the skills and processes. In the application of this theory, the learner moves according to his understanding from crude and often roundabout methods in his computations to the refined methods of the adult. The committee is in agreement with the claim made for a meaningful teaching of skills and

processes stated in Chapter III, namely: "Skills can be learned mechanically, in which case they function imperfectly and soon are lost. Rather, they are to be acquired through the exercise of intelligence, so that later when they are automatized they can be used intelligently."

In consideration of the fundamentals in processes and skills for pupils enrolled in secondary school mathematics classes, the needs of pupils must be taken into account. Past experience and capacity to learn should in a large measure enter into a determination of pupil needs. This problem is discussed in another chapter. It is sufficient at this point to suggest that the needs of pupils in so far as the fundamentals in processes and skills are concerned will be varied. They will range from a need for an almost complete reteaching of the processes and skills of elementary school arithmetic to learning experiences designed to provide a mastery of the fundamentals of college preparatory and vocational mathematics. Whatever the case may be, pupils in secondary school mathematics classes will be expected to master skills and processes whether they enroll in general mathematics, review mathematics, refresher mathematics, high school arithmetic, algebra, geometry, trigonometry or in vocational mathematics classes. The point of view regarding how they will learn has been stated. The next problem is that of identifying the fundamentals in processes and skills for secondary school mathematics.

In the light of the foregoing, the identification of the elements of mathematics which are considered to be basic must be made from two points of view, that of the teacher and that of the learner. The identification for the teacher is the simpler of the two. It depends upon a knowledge of the

rationale of mathematics, the conceptual framework which gives mathematics unity, order and coherence. On the other hand, for the learner the fundamentals in skills and processes are the learning experiences which lead to a meaningful understanding of skills and processes. However, individual differences among children are such that it would be difficult to describe precisely a set of learning experiences which would fit the needs of all children. The exact form of learning experiences will be determined by the teacher. Outlines, lists, textbook suggestions and the like will serve to guide him in his selection of learning experiences.

The "Second Report of the Commission in War Plans"¹ contained a check list of twenty-eight items general in nature but indicative or suggestive of the learning experiences which lead to the skills and abilities indicated in the list. Representative of the items in the list are the following:

1. Can the pupils operate effectively with whole numbers, common fractions, decimals, and percents?
2. Does he know how to use round numbers?
9. Can he estimate, read, and construct an angle?
15. Does he understand the meaning of vector, and can he find the resultant of two forces?
18. Can he use letters to represent numbers, i.e., does he understand the symbolism of algebra—does he know the meaning of exponent and coefficient?
20. Does he understand the meaning of similar triangles, and does he know how to use the fact that in similar triangles the ratio of corresponding sides are equal?

Although brief, the statements indicate the place of meaning and understanding in a program of mathematics instruction. In the other report to which reference has been made, "Essential Mathematics for Minimum Army Needs," the essential mathe-

matics for minimum army needs were listed under these larger headings.

- a. Reading and Writing Arithmetical Symbols
- b. Counting
- c. Operations with Whole Numbers
- d. Operations with Common Fractions
- e. Operations with Decimal Fractions
- f. Part Whole Relationships, with Common Fractions, Decimal Fractions, and Percents
- g. Ration and Proportion
- h. Powers and Roots
- i. Graphs and Maps
- j. Tables
- k. Formulas and Equations
- l. Positive and Negative Numbers
- m. Measurement, Including Understand of Basic Units
- n. Geometric Concepts
- o. Drawing and Construction
- p. Miscellaneous

The value of a list such as this for purposes of identifying elements of instruction is limited. Recognition of that fact by the committee led to the preparation of a lengthy description of the sixteen items, in terms of meaningful teaching. Brief statements drawn from the descriptions are offered to indicate how the elements of instruction were identified.

Our methods of computation and forms (algorithms) we use are directly based upon the fact that ours is a decimal system with 10 as a base.²

Providing the student has real understanding of the various meanings of fractions, of reduction of fractions, and of equivalent fractions, he should readily learn how to compute with common fractions.³ [Three meanings are described in the report.]

When two whole numbers are multiplied, the product is larger than is either number; when divided, the quotient is smaller than is the number divided. The difference in the case of computations with fractions can be made clear by analyzing relationships like those below.⁴

The custom of postponing all consideration of part-whole relationships until percentage is taught and then of limiting these relationships exclusively to percentage is a mistake.⁵

² *Ibid.*, p. 259.

³ *Ibid.*, p. 262.

⁴ *Ibid.*, p. 263.

⁵ *Ibid.*, p. 265.

¹ *Ibid.*, pp. 197-98.

No treatment of formulas can be considered satisfactory unless some attention is given to concepts of constant, variable, and dependence.¹

To develop a clear-cut concept of the nature of positive and negative numbers and their characteristics of oppositeness, direction and position, the most satisfactory approach is to be found in the number scale.²

Mere knowledge of the names of common units of measure is of little worth and memorized tables of such names have no more to recommend them. As has been already implied, adequate familiarity with units of measure is best attained by using them in concrete settings.³

The mastery of the geometric concepts mentioned in the outline of essential mathematics cannot be obtained by merely memorizing definitions. For each concept, there must be enough understanding to guarantee its usefulness and its actual use.⁴

Incomplete as these statements⁵ are they should serve to indicate that the identification of elements of instruction depends in a large measure upon the point of view that the teacher has regarding the conceptual framework of mathematics. For example, a knowledge of the decimal nature of our number system may lead to the use of place value in understanding numbers and in learning how to compute with

them. An acquaintance with part-whole relationships may change entirely the teaching of percentage. Likewise, an appreciation of facts regarding oppositeness, direction, and position may lead to the use of the number scale and other devices to give meaning to the process and skills related to signed numbers. Finally, the extent to which the basic facts and relationships of geometry are understood will determine whether the facts and skills of geometry are learned mechanically or meaningfully.

This consideration of fundamentals and skills of secondary school mathematics may be summarized in this manner:

1. The teacher must choose between two methods of teaching the processes and skills of mathematics: the meaningful and the mechanical. There seems to be little reason for the perpetuation of mechanical methods in teaching mathematics.

2. The needs of the learner will determine what processes and skills must be taught in secondary school mathematics classes. The first responsibility of secondary school mathematics teachers should be to reteach, when necessary, the skills and processes of elementary school arithmetic.

3. The identification of the elements of mathematics which constitute the skills and processes depends upon the point of view of the teacher. If the skills and processes of mathematics are to be taught meaningfully, the teacher must be fully acquainted with the conceptual framework of mathematics. It represents the system in which the processes and skills are interrelated.

¹ *Ibid.*, p. 273.

² *Ibid.*, p. 274.

³ *Ibid.*, p. 275.

⁴ *Ibid.*, p. 277.

⁵ The reader is referred to the report on "Essential Mathematics for Minimum Army Needs," pp. 254-80, for the full text from which the statements above were drawn.

CHAPTER V. TRYOUT, SELECTION, AND DIRECTION

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IT SHOULD be clear that there are great differences among young people of secondary school age. These differences exist not only in general mental capacity and abilities, but in the special abilities unique to and essential in acquisition of the fundamental

skills, concepts, and understandings in the field of mathematics. In addition, in every school, in every grade, in every class, pupils differ significantly with respect to interests, mastery of mathematics previously taught, and, of great importance, with respect to

future needs. Yet, without doubt, the mathematical needs of all who are to live in this increasingly mathematical world are so great that instruction in the fundamentals must be provided for all and adapted to abilities and backgrounds of each.¹

In the past, secondary school programs have been built upon theoretical premises which we are now forced to abandon. They have been based upon the assumptions that all young people attempt to acquire the fundamentals by means of a single conventional body of instruction in algebra and geometry, and that those who could or would not learn in such an environment should be written off as "lost." Even in more recent years courses in general mathematics as recommended by the Joint Commission of the Mathematical Association and The National Council of Teachers of Mathematics² have been little more than slightly diluted courses in algebra and geometry.

More and more definitely in the past few years, it has become evident that there must be at least two types of content and organization of materials of mathematics—a double-track plan.^{3,4}

There should be at least one sequence of courses for the pupil with more ability and perhaps more interest in and need for mathematics—the future engineer or scientist, and another track for the non-technical pupil—the general consumer, whose needs for

mathematical fundamentals have become so great and whose numbers so large that society cannot safely ignore them.

It has also become evident that on each track it is more practical to provide for groups traveling at different speeds and traveling to lesser or greater destinations in the field of mathematical knowledge, understanding, and skills. Whatever may be the solution in other fields of instruction and whatever may be the difficulties involved, there is clear indication of the need for ability grouping and differentiated instruction either within classes or by means of different classes.

At the junior high school level it has become increasingly evident, and the need imperative, for different courses of study for those who are not prepared to profit sufficiently from an attempt to learn the courses of study for the average pupil. The practice, which in recent years has become so prevalent, of promoting all pupils a grade a year results in an accumulated confusion and mathematical delinquency on the part of 20 to 30 percent of all pupils enrolled. Consequently, an attempt to go forward with materials based upon the assumption of a reasonable mastery of the work of grades 1-6 becomes highly impractical. Moreover, by this time the individuals who constitute that 20 to 30 percent have developed such attitudes towards mathematics and towards their own abilities as to necessitate especial attention. Once begun in the 7th grade, this special course of study must be continued through the 8th, and perhaps the 9th grades. Already one publishing company has produced textbooks especially written for classes of this nature.

Differentiated courses of study should be and are being employed for pupils of two or more categories of ability, interest, aptitude, and future

¹ "The Second Report of the Commission on Postwar Plans," *Mathematics Teacher*, XXXVIII (May, 1945), 195-221, by Harl Douglass.

² *The Place of Mathematics in Secondary Education*. New York: Teachers College, Columbia University, 1940.

³ "Mathematics for All and the Double Track Plan," *School Science and Mathematics*, XXVII (May, 1945), 425-35.

⁴ "The Double Track Plan of High School Mathematics," *Mathematics Teacher*, XXXVI (February, 1943), 67-71.

need. We are confronted with the problem of determining which path each pupil should be encouraged to follow.

One cannot evade the responsibility by insisting that it is not easy to predict precisely and to identify with accuracy the groups into which each individual should go. Neither can the responsibility be evaded by saying that there will be mistakes made and some pupils erroneously judged and advised. The fact will remain that if there are not differentiated courses and if no attempt is made at identification and direction of pupils, more numerous and more disastrous maladjustments will occur than have occurred in years past. There is no escape from the fact, demonstrated after years of unfortunate experience, that for a considerable number of young people, no doubt the majority, *the fundamentals of mathematics will be mastered best if what is studied is well learned*. A corollary of this truth is that for the pupils who can learn mathematics easily, the course of study must be challenging and such as will insure the development of their full potentialities for learning mathematics.

In all prognoses of pupils potentialities, it has been found easier to differentiate those who belong to the lower and to the upper ends of a relatively heterogeneous group than it is to differentiate among those in the middle 50 or 60 percent. In other words it is possible to identify easily those who should be encouraged to go into the minimum program and those who should go into the maximum program. One need not therefore approach the task of educational guidance in this connection with misgivings.

While I.Q. and M.A. are of some value in prediction of success in mathematics classes ($r = .40$ to $.50$)

they are very valuable as indicators. Because a good standard achievement test is a measure of previous achievements as well as ability, it has great value for prediction purposes at the junior high school level. For grades 9 and 10, aptitude tests for algebra and for geometry are available and should be used.¹

Also in the highest bracket on the basis of predictive validity is the much maligned teachers' mark. It correlates with future achievement almost as highly as any other single variable. Because of the specialized abilities needed, the mark in the previous year or years of mathematics is more indicative of probable success than is the I.Q. rating. As a usual rule, the more recent the mark, the more valid it is for prognosis. However, the marks of two or three years should be averaged in order to avoid the influence of some peculiar circumstances; e.g., bad pupil-teacher equation or unusual distraction of pupil in a given year. The principal limitation of teachers' marks is the fact that so often they are not distributed over a wide range of categories, being for the most part in the B and C categories. Perhaps only

¹ Murray Lee, *Test of Algebraic Ability*. Time for giving, 25 minutes. Bloomington, Illinois: Public School Publishing Company.

Noel Keys, and Muriel McCrum, *California Algebra Aptitude Test*. Time for giving, 50 minutes. Minneapolis: Educational Publishers, Inc.

Joseph B. Orleans, and Jacob S. Orleans, *Orleans Algebra Prognosis Test*. Time for giving, 81 minutes. Yonkers, New York: World Book Company.

Dorris M. Lee, and J. Murray Lee, *Lee Test of Geometric Aptitude*. Time for giving, 31 minutes. Los Angeles: California Test Bureau, 3636 Beverly Boulevard.

Joseph B. Orleans, and Jacob S. Orleans, *Orleans Geometry Prognosis Test*. Time for giving, 1 hour, 17 minutes. Yonkers, New York: World Book Company.

Harry A. Green, and Harold W. Bruce, *Iowa Plane Geometry Aptitude Test*. Time for giving, 44 minutes. Iowa City: Bureau of Educational Research and Service, University of Iowa.

when pluses and minuses are used, it is wise to employ teachers' marks. In that case, the marks may be converted into numerical equivalents; e.g., A = 10, A- = 9, B+ = 8, B = 7, B- = 6, C+ = 5, C = 4, C- = 3, D+ = 2, D or D- = 1, and F = 0.

For the most accurate prediction—and only the best possible prediction is ethical—several predictive variables should be combined; such as aptitude test, achievement test, and teacher's mark. If one of these is not available, the I.Q. rating should be substituted. In a given grade, not enough is gained to reward the effort of employing both I.Q. and M.A. since both are so highly correlated within a single grade.

While slight, often almost imperceptible, increase in predictive accuracy is gained by assigning to each of the predictive variables an appropriate weight, the burden of the complicated procedure involved outweighs the possible improvement of prediction. However, standard texts in measurement and statistics give technical procedures for the precise work required in some instances.

In deciding to what "course of study" the student should be directed, common sense and experimentation must be relied upon. For example, of 100 9th-grade pupils, perhaps the upper 10 or 15 percent should be placed in a "fast" section of algebra, the next 30 or 40 percent encouraged to take the "regular" algebra, the next 30 or 40 percent encouraged to take the so-called general or consumer mathematics, and the lowest 15 to 25 percent advised strongly to take a special remedial course. Those who have been in the special 7th and 8th grade remedial courses should be advised to continue in the 9th grade section of it.

Those electing the general or con-

sumer mathematics course might be told that successful completion of that course should qualify them to elect the regular algebra course in the 10th grade. By then they will be better prepared mathematically, they may have gained confidence in their mathematical ability, and they may be able to decide more wisely whether they should take algebra. Many parents of youngsters of limited mathematical aptitude are far more likely to accept this advice than to accept the suggestion that the youngster take no mathematics at all. This is particularly true of parents with ambitions to send their children to college.

The problem of direction is not so simple in the case of geometry, but on the other hand the number of critical cases is smaller. It should be remembered that grades made in algebra are not highly indicative of probable success in geometry—not so much as for probable success in trigonometry or in second-year algebra. This is true possibly because geometry and algebra are different in abilities involved in their study, and perhaps another factor is the unfortunate way in which geometry is so frequently taught with overemphasis upon memory.

There is always the question of how firm to be in the advising or the assigning of pupils to the various courses in mathematics. These principles seem fundamental in the counselling of pupils with respect to mathematics:

1. Only in the most clear-cut cases should the counselee be vigorously urged or required to follow a defined course.

2. In borderline cases, advice should be no more than advice—with the possibility always in mind that the prognosis might not be accurate—that pupil interest and many other factors may prove a prognosis to be incorrect.

3. Interviews with parents should be encouraged at which the procedure and its philosophy should be explained. Particularly in clear-cut cases where parents insist upon the course most likely to result in failure to the pupil, the

probable unfortunate results should be clearly pictured and the responsibility shifted to the parents. In borderline cases, an attempt should be made to enlist the cooperation of both pupil and parent if the pupil elects to try the upper level.

4. Where there is doubt, the pupil should be advised to wait a year before electing regular algebra or plane geometry.

5. After these steps have been taken, the teacher should not deprive the abler and properly classified pupils of their due share of the teacher's time and attention.

In the smallest schools, the multiple track plan is difficult to follow and perhaps differentiation within class is necessary. A possible solution lies in postponing algebra, except for the most likely few, until the sophomore year and to offer to both juniors and seniors who have no algebra or geometry a general course in senior mathematics in which the fundamentals of arithmetic, of algebra, and non-proof geometry constitute the course.

As colleges and universities continue to provide for entrance without algebra and geometry, the necessity becomes greater for (1) providing an average or a second track for all not *superior* in mathematical ability, and (2) for steering those of lesser capacities, interests, and probable future needs, away from the mathematics for the technical specialist. Even in

most of the smaller schools the second-track with a year in the 9th grade followed by one in the 11th or 12th, or, better still, a semester each year of appropriate mathematics instruction should be established as soon as possible.

Throughout this chapter little has been said specifically about interest. Many readers, no doubt, will readily recognize that interest in mathematics is reflected and measured to considerable degree in teachers' marks, in mathematics achievement test scores, and, indeed, scores made on tests of mathematical abilities. One tends to do and learn well those things in which he is interested, and one is likely to become interested in those things one finds he does well—and conversely to avoid those things which he does poorly.

Throughout all considerations of problems raised in this chapter, one should not fail to keep in mind (a) that poor work in mathematics and bad attitudes towards the subject both grow out of unhappy experiences in the study of mathematics and (b) that frequently if the learner attempts less with greater success his attitude changes, interest is increased, and learning of more difficult things becomes a possibility.

CHAPTER VI. MAINTENANCE AND REMEDIAL OPPORTUNITIES FOR THE AVERAGE AND ABOVE AVERAGE STUDENT

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ALTHOUGH history will not record World War II as a laboratory period for educational research, it did serve that function. Among the important but unpleasant educational findings made public was the astonishing lack of competence among men of the armed services in arithmetical com-

putation. Widely publicized in his well-known letter, Admiral Nimitz revealed that this mathematical illiteracy was not confined to dull men of little schooling, but included also high school graduates who took an examination for admission to officer training.

To check the accuracy of the soundness of the criticism of the members of the armed forces on the ability of high school graduates to compute, Brueckner¹ in 1943, administered an arithmetic test sampling four processes in whole numbers, fractions and decimals to a number of pupils, chiefly seniors, in ninety cities in thirty states.

The median score for all groups was 57.7 percent of the items correct. This apparent low level of accuracy seems to corroborate the criticisms of the armed forces. The report made by Admiral Nimitz, supported by Brueckner's data, indicate that remedial opportunities should be offered to the average and above average pupil.

The operation of the law of forgetting makes remedial opportunities necessary and is a greater factor in education than is frequently credited to it. Forgetting varies with the individuals, with the material to be learned, with the methods of learning, and with the degree of mastery. Perhaps forgetting is more obvious in mathematics than in other subject matter fields because computation lends itself so easily to measurement.

A dominant factor in forgetting is the lack of understanding of the things to be learned. For example, the pupil may not have comprehended a topic when it was originally presented, and further teaching may have been of the drill type with no attention being paid to the meanings involved. Some bright pupil may have not understood why the divisor was inverted in the division of fractions; he accepted it as a useful trick. After an interval of time, later tests might reveal that he has forgotten the exact rule but he vaguely remembers that something must be changed,

so he inverts the dividend, the divisor, or both.

This failure on the part of some capable pupils to remember the process may be due to the fact that they were absent from school when it was presented.

Perhaps the pupil needs remedial work because he did not have enough meaningful practice to develop the skill which grew from the concept which he understood easily. Because he can acquire understanding so readily he feels that he can acquire skill with as little effort, but this is not the case. Skill comes only as a result of repeated performance following comprehension. In consequence the duller pupil who is willing to spend time in drill in computational performance sometimes outstrips his more gifted classmate who expects quick results.

Frequently, the bright pupil does not compute well because he is satisfied to accept a low degree of correctness or because he is not forced to exact from himself a high degree of accuracy. When he reaches high school this bright pupil may be inclined to feel that arithmetic, the foundation of mathematics, is a topic too childish to challenge his best efforts toward improvement.

His attitude is shared by many secondary-school teachers of mathematics. They think that arithmetic should have been mastered in the elementary grades and that the pupils' poor attainment is not their problem. Unfortunately they do not recognize the relative importance of arithmetic and consequently have not acquired skill in teaching it.

Impelled by the needs of war, administrators throughout the country introduced an upper grade course usually called "Refresher Mathematics," a descendent of the Review Arithmetic of a generation ago. In

¹ Leo J. Brueckner, "Improving Mathematical Abilities of Pre-Induction Groups," *Bulletin of the National Association of Secondary School Principals*, XXVII (December, 1943), 33-48.

Indiana a state committee recommended that every high school pupil 17 years of age or older or who was in the last year of high school take an arithmetic screening test, and if he failed, he should be required to take a review mathematics course. In New York the State Education Department in a recent document entitled "Basic Issues in Secondary Education" specified that high schools must assume full responsibility for maintaining the skills of language and mathematics needed in everyday life. Furthermore, the document specified that, if pupils be admitted without adequate preparation, the schools shall provide maintenance courses of not more than eight weeks duration and to be taken without credit.

The content of the Refresher Course as shown by various curriculums and texts usually consists of arithmetic and may include basic concepts and skills of algebra and geometry as described in "Essential Mathematics for Minimum Army Needs."¹ The items included in this carefully prepared document may well be accepted as minimum needs for civilian life.

Another method of administering a maintenance program is by means of all offerings of the school curriculum. In a class in Physics, Chemistry, Industrial Arts, or any class in which arithmetic or algebra is necessary to success in that subject, a short review of the skill to be used directly preceding its use and given by the regular subject teacher is essential for efficient teaching. Many applications of basic topics in traditional courses in mathematics not only give a broader experience to the pupils but also assist materially in a maintenance program of arithmetical and algebraic skills.

In some schools it is found that pupils profit from a short daily review period preceding the regular class work.

An understanding of the conceptions of drill held by modern psychologists should be acquired by any educator interested in a maintenance program. For a complete discussion of this matter, the reader is referred to Buckingham's chapter in the 16th Yearbook of National Council of Teachers of Mathematics.

Diagnostic tests are especially useful in the upper grades where the arithmetical achievements of the pupils are very uneven. If diagnostic tests reveal that errors are recurring rather than accidental, the teacher is confronted with evidence that makes it reasonable to assume the processes have no meaning and that understanding must be acquired before practice is initiated. If practice is to maintain a skill, which is understood, perhaps a short recall of meanings would suffice.

Practice should be individual; it is a personal matter devised to correct individual weakness and to develop strength. A short daily practice period is more effective than a longer occasional period. At the outset, emphasis should be placed upon correctness rather than upon speed; too frequently rapid practice results in the fixation of mistakes. In general, this practice should be concentrated upon one process at a time rather than scattered over a wide range of skills. Further, devices should be used to stimulate performance, to make a pupil watch his own progress, to compete with his own previous scores and to enjoy his own success.

The remedial and maintenance opportunities which were required and offered to the pupil as an emergency measure for the needs of war seem to be equally important to the needs of peace. Refresher courses should be

¹ Essential Mathematics for Minimum Army Needs," *Mathematics Teacher*, XXXVI (October, 1943), 243-82.

continued for the benefit of those pupils who do not have a working knowledge of arithmetic no matter how competent they may be in other branches of mathematics. In time, the development of a multiple track program, the selection of more valid objectives, and the improvement in the quality of teaching may make refresher courses unnecessary. Until that time comes, the maintenance and

remedial responsibilities must be met.

In conclusion, it seems clear that the success of a maintenance and remedial program in mathematics is contingent upon the extent to which secondary-school mathematics teachers familiarize themselves with the content and methods of teaching arithmetic. The teacher training institutions must accept major responsibility in offering courses to achieve this purpose.

CHAPTER VII. PUPILS OF LOW COMPETENCE

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IT MUST be recognized that a large proportion of the boys and girls of this generation and future generations must not only be kept *in* school but be kept *happy* in school. Growing enrollment will bring an ever increasing number of pupils who are the so-called "retarded." The lot of the slow learner and that of the teacher of the slow learner is not a happy one today.

The retarded in secondary school mathematics are the pupils who have had trouble with the subject in the elementary grades and who are now in the junior and senior high school levels and are in need of special remedial work. They are pupils of average or below average in academic achievement, mathematically. They cannot keep pace with normal children and cannot profit by using the same curriculum provided for normal or above normal children.

The traits of the retarded or slow learner are familiar to all teachers. Those perhaps of most concern are:

1. Reading ability which is exceedingly low.
2. Difficulty in forming associations between words and ideas.
3. Lack of imagination and foresight.

4. Inability to memorize accurately and to recall what has been memorized.
5. Difficulty in generalizing.
6. Short attention span.

If the retarded pupil is to improve in his mathematics and obtain satisfaction therein, and if society is to have its vital needs, such as education of *all* of its children most adequately met, then the course of study of mathematics, the text-books, teaching procedures, must be consciously altered, consciously re-constructed to suit the needs of these children. The teacher who has tried to adapt courses and materials prepared for the normal child to the needs of the slow learner appreciates the need for a fresh approach to her problem.

The work given the retarded child in the secondary school must be both remedial and enriching in nature. It must build in pupils an awareness of the significance of the subject and of its importance and use. The mathematical aims which the committee proposes as goals for the secondary school mathematics—concepts, skills, appreciations, thinking processes, judgments, imaginative experiences—can

be realized with the slow learners but on lower levels of achievement as compared with the achievement of the average and the above average pupils. The topic of percentage is presented here to illustrate an approach to teaching those whose achievements are at the lower levels.

In the study of percentage the slow learner can learn that percent means hundredths, that a percent is a fraction whose denominator is 100, that it is expressed by the symbol "%"; that 6% of \$100 means \$6 out of \$100; that 100% means the whole, or all of a number or thing. The slow learner can acquire an appreciation that all fractions can be changed to equivalent fractions with 100 as the denominator, that is, that all bases can be standardized to 100, so that the parts are known as hundredths or percents.

The retarded child is capable of understanding and memorizing the fractional equivalents of the dozen or so more common percents.

Percents smaller than 1% are very difficult for the slow learner to comprehend. A few may get an appreciation of .5% but .1%, .9%, and so forth, are too difficult. These are on higher levels of achievement. Again some of the slow learners can comprehend the meaning of 200%, 300%, but 125% and 275% prove difficult.

The slow learner can understand finding a percent of a given quantity providing the percents are meaningful. The simplest aspects of the second case of percentage can be developed at this point, but the work must have a concrete basis and the numbers must be of a very simple nature. The third case of percentage is too difficult for the slow learner to understand at this time. In contrast with the slow learner, the fast learner can be taught simultaneously the three cases of percentage:

5% of \$200 is — ? — \$10 is — % of \$200. \$10 is 5% of what amount?

The *social aim* for secondary school mathematics as described in Chapter III can be achieved. Instruction geared to the speed of the slow learner will inculcate habits of using mathematics outside the classroom. The retarded child is as interested in the story of number, of measurement, of time, in other words, in the culture of mathematics as the faster-learning child though it is difficult to determine if this learning is as significant to him as it is to the bright child. He is interested in the applications of mathematics within the limits of his experiences. It must be realized that he does not live as widely or as fully as the average or above average child.

The learning of the retarded on the junior-senior high school levels takes place through a reorganization of experience so that further learning may take place. The retarded pupils, many of whom are of average intelligence, often have failed to develop adequate concepts of first steps of the fundamentals of mathematics. They are in need of instruction on the level where the pupils are found. The task of guiding the pupils to a reorganization of his experiences is indeed a difficult one. Not only must poor habits resulting from unprofitable learning be eradicated, morale be re-built, the fear of the subject be erased, but at the same time material progress of a positive kind must be established.

When pupils are given a number of varied experiences with the result that they come to understand a given concept, they usually do not resent an approach that may be considered by some teachers as elementary. Perhaps in every case of the unnecessarily retarded child the fault lies not so much with him as with the fact that the pace of his early instruction was

too rapid for him. Though he may have been given concrete experiences in the development of a concept or skill, he failed to bridge these with the abstract levels of thinking.

The factor of "arithmetic readiness" is an important one. The lack of this readiness and combined with too rapid a pace, may cause him to fail to make the progress in learning "from the concrete to the abstract and back to the concrete." Therefore, it is the responsibility of the teacher of the retarded to locate the starting point for effective teaching. In so doing it becomes necessary to present the early skills and concepts as well as the new skills and concepts from varied approaches,—each approach stressing the *meaning* side.

In teaching the concept that percent means hundredths various approaches are necessary.

1. To arouse pupil interest, an attractive bulletin board of clippings containing percents may be shown a few days in advance of the presentation of the topic. Some of these may be read aloud by the teacher.

2. Pupils may be asked to make a bulletin board from the advertisements or articles cut out from magazines and newspapers. This may be done in class time, and a few of them read aloud.

3. At this point little is done with developing an understanding of percents beyond leading the pupils to sense a need for learning about them and understanding that there are various ways of expressing them:

30%	30 hundredths	$\frac{30}{100}$
30 percent	.30	$\frac{3}{10}$

4. To teach the meaning of percents from 1% to 100%, one may distribute mimeographed sheets or have a number of large squares divided into 100 parts drawn on the blackboard. Develop the concept that each part is 1% by shading a certain number of squares and asking the pupils to count the number of hundredths, or the percent shaded and by writing each answer as a fraction and as a percent.

5. Pupils may draw on graph paper a heavy line around several large squares made up of

100 small squares and shade varying percents such as 53%, 16% and 28%.

6. Again pupils may draw a large square containing 100 small squares and put crosses in 7 of them, checks in 16 of them, small circles in 3 of them. Questions such as, "What percent of the whole contains a cross? a check? a small circle?" may be asked.

7. Another large square may be drawn on graph paper. This time the pupils can be asked to put the letter "r" in 6% of the whole, a dot in 20% of the whole, and the like. Pupils will answer questions such as, "How many squares contain the letter 'r'?"

8. Pupils are now ready to read percents as hundredths, or hundredths as percents. They should have practice in writing a decimal fraction as a common fraction with 100 as a denominator, and then as a percent.

9. Next they change a percent to a fraction with the denominator 100 and then as a common fraction in its lowest terms. Here it may be necessary to re-teach the reduction of fractions to their lowest terms. Only fractions with denominators 2, 3, 4, 5, 6, 8, and 10 should be used.

10. Returning to the concrete again, groups of pupils may be furnished with envelopes each containing 100 toothpicks, or 100 cardboard circles. Pupils are asked to count out specified percents. Pupils now understand that percents are given parts of 100.

The next major step is in the process of teaching percentages to help children to understand a percent of a whole that is not divided into 100 equal parts.

1. A circle may be drawn on the blackboard and divided into 10 parts. Present a problem such as: "I want to blacken 40% of this circle. Notice, it is divided into 10 equal parts. How can I do this?" Do likewise with circles divided into twelfths, eighths, and sixteenths. The number relations must be kept very simple at all times.

2. Again the envelopes and toothpicks or cardboard circles may be used, but with each envelope this time containing a number of objects different from one hundred.

3. The children may count the number of objects in the whole. The teacher may say, "Count out 50% of your toothpicks." Pupil replies, "I have 20 toothpicks. If I count out 50% of them I count 10 toothpicks." Another says, "I have 32 toothpicks. To count 50% means I count 16 toothpicks." This may be done with the more common whole percents.

4. In each case the teacher may ask the class to decide if the pupil is correct and the computation may be written on the blackboard two ways:

$$\begin{array}{r} 50\% - \frac{1}{2} \\ 50\% - .50 \\ \hline \end{array}$$

$$\begin{array}{r} 20 \\ \times .50 \\ \hline 10.00 \end{array}$$

From the percents more easily understood, progress may be made to percents such as 4% of the whole and 21% of the whole. Pupils see that using a decimal fraction to find a part of a number is sometimes easier than using a common fraction. Pupils are now ready to generalize the arithmetic process which is involved.

5. After a great deal of concrete practice of this kind, pupils are ready to deal with less concrete problems, first those dealing with money values. The advertisements and clippings may now be discussed in the light of their new knowledge which the pupils have acquired.

The detailed account above has been presented for the purpose of showing that *meaning* must be stressed, that it is necessary to make the approach simple, interesting, and rich in pupil activity. The slow learner does not resent an elementary approach of this type. The learning of relationships, the development of meanings and the providing of opportunity for the use of the concept learned takes considerable time. After *meaning* and *understanding* have been established, then and only then, should a pupil be given drill. Reviews should be frequent and the reviews must stress concrete experiences again. The laboratory method should be the technique of teaching; that is, the pupils should take an active part in all phases of the work. This means that many aids must be employed, such as drawings, pictures, measuring diagrams, slides. Each pupil should have a mathematics kit containing ruler, protractor, compasses, string and colored crayon.

It cannot be stressed too strongly that even at the secondary school level the work must move along slowly

while the ideas take root and the concepts grow. Always the unique psychology of the slow learner must be kept in mind—chronologically he may be 15 years old, educationally at the 10 year level, and sexually at the 16 or 17 year level. Again this points out the necessity for writing a course of study which is particularly suited to the needs of the retarded. It must be recognized that a saturation point in his capacity to learn is reached comparatively early by the slow learner.

The teacher factor is an important one in the successful teaching of the retarded. She must have patience, sympathy and a belief that her efforts are worthwhile. The slow learner has limitations but at the same time he does have some possibilities of achievement, and this the teacher must recognize and respect. Above all, the teacher must have enthusiasm and imagination—the imagination to present the same topic in an interesting fashion from many different viewpoints.

In summary the chief points to remember with respect to the problem of the retarded are:

1. The subject matter should consist both of the familiar and the unfamiliar concepts and skills.
2. In teaching the unfamiliar it is very often necessary to reteach the familiar.
3. All teaching—familiar and unfamiliar alike—must be on the level of meanings and understandings.
4. The teacher must be aware of every step, every process in the learning of a concept or skill. She must be skillful in guiding the pupils to bridge the stages or levels of learning.
5. The pace of instruction must be slow for the retarded.
6. Pupil activity is essential; that is, the laboratory method of teaching yields the best results.
7. The teacher must employ the learning cycle—"from the concrete to the abstract and back to the concrete."
8. Drill should follow only after meaning and understanding are established.

9. The teacher must have the imagination to present the same topic in an interesting fashion from many different viewpoints.

10. The approach cannot be too simple or too elementary.

11. The low reading ability must be recognized and given consideration. The essential words in the vocabulary of mathematics must be developed and made meaningful, one at a time.

This chapter has been directed particularly to the interests of the slow pupil. The emphasis here given

should not lead one to the conclusion that the approach be limited to the slow or retarded pupil. The emphasis, at the appropriate level, upon meanings may become the unique factor in learning which prevents the average and above average pupil becoming numbered among those pupils of reputed low competence. Good teaching at any level of pupil competence leads to effective learning.

CHAPTER VIII. THE FUNDAMENTALS AND SOCIAL APPLICATION

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THERE is an impressive and increasing amount of evidence to support the conclusion that many of our high school graduates are mathematically illiterate. From the factory, the office, the hospital, the kitchen, the army camp and the college classroom comes the clear and tragic message that these young men and women are unable to speak the language of mathematics with any degree of intelligence. They have spent from one to four years in the mathematics classrooms our secondary schools but 7% of them are still unable to identify a circle, 80% do not know how to compute the area of a parallelogram, and if they labored from 7:40 a.m. until 5:10 p.m., with one-half hour off for lunch, 67% would be unable to determine the number of hours they had been at work. We have not only failed to achieve our "mathematical aim" but rapidly accumulating evidence indicates that our "social aim" is considerably out of adjustment.

No one can apply that which he does not understand and if the powerful methods and useful skills of mathematics are ever to function in the lives of our people as they face the problems

of citizenship in a democracy, we who are responsible for the learning activities in the mathematics classroom must place continuing and persistent emphasis on the *real* fundamentals which have been so clearly defined in an earlier chapter. While the operations of mathematics are important, they can serve no useful purpose unless associated with the conceptual understandings essential to the selection of the needed operation. A pupil who is only a skillful computer is no more equipped to apply the concepts of mathematics to the solution of problems which daily confront him than is the circus horse who demonstrates his ability to add 2 and 3. To know how to add does not necessarily mean to know when to add. To know when to add or when to perform any other operation in mathematics calls for a clear and functional understanding of the concepts involved without which pupils will fail to recognize the potential use of mathematics in social situations.

During an acute water shortage in a city of 300,000 people the water supply engineer asked a group of high school graduates for their help in the conservation of water. Wishing to impress

them with their personal responsibility in this important matter he told them that between June 1 and July 1 the total water consumption for the entire city was 1,240,000,000 gallons and asked them to determine from those data the average daily consumption of each of the 300,000 residents. He reported that when faced with this problem most of these young people looked at him helplessly and raised the question, familiar to every teacher of mathematics, "Do I multiply or do I divide?" They were operators only. They had little, if any, insight into the nature of the relations between these data. Their concepts of "average," must have been vague and uncertain and one might even question seriously whether they really understood the concepts of multiplication and division.

Drill without meaning is barren of fruitful results. Such important concepts as number, measurement, similarity, equation, formula, constant, variable, rate of change, relationship, graphical representation, precise definition, proof and generalization will not be available for wide application to the problems of daily life unless the pupil has developed the habit of thinking in terms of these concepts and is sufficiently familiar with them to recognize their function in dealing with problems of particular concern to him. To select those concepts which are of real value in thinking about the problems of life, to clothe them with meaning, and to build them into the intellectual structure of our pupils is to take a long step toward the achievement of our goals in mathematics teaching.

It should be steadily recognized, however, that if this desirable result is to be effectively realized, mathematics must be taught as a system of thinking rather than as a heterogeneous group

of unrelated skills and ideas. The concepts of number, measurement, relationship, symbolism and the like, which give unity and coherence to the program and with which the pupil becomes increasingly familiar in the elementary school, should be extended and enlarged as he continues his mathematical education on the secondary level. Throughout this development the meanings and understandings associated with the "Mathematical Aim" should be constantly used in the solution of problems drawn from the social context in which the pupil is living. As an illustration let us go to the classroom of a teacher situated in a section where the destructive action of water was steadily destroying the fertility of thousands of acres of fertile soil. Among both pupils and parents there was deep concern as to how the productive capacity of the farms might be preserved and the teacher recognized this as one of the major community problems. Reading in a local paper that:

The transporting or carrying power of water varies approximately as the sixth power of its velocity

the teacher discussed with the pupils the meaning and significance of this important principle and its relation to the problem of soil erosion. Using the symbolism of mathematics the pupils wrote this newspaper statement as a formula by means of which they studied the "carrying power" of the river which was a constant threat to the community. They drew a picture of the relationship between carrying power and velocity and examined the effect on the carrying power as the velocity varied. The application of the fundamentals associated with mathematical competency was not left to chance. Through continued emphasis on significant community problems the pupils learned from actual experience

that the concepts, principles and methods of mathematics were useful and effective in dealing with the problems of life. Their way of thinking was changed and when studying a problem it was not uncommon to hear such expressions as:

Some of these measurements are more accurate than others. Let's round them off to the nearest tenth.

That result is much larger than my estimate. There must be something wrong.

Wouldn't it be helpful to have a graph of this relationship?

That conclusion depends on an assumption which I wish to question.

Can't we find a formula which can be used here?

That's the key term in your statement. How do you define it?

All such questions are a reflection of the "fundamentals" at work in the thinking of these pupils. Not only were they familiar with the conceptual understandings involved but, through the generalization of these understandings, they were able to recognize their presence and usefulness in the study of any problem of human concern.

A further point which should be recognized in our consideration of the fundamentals of mathematics is the increasingly extensive use of mathematical concepts for the expression of significant ideas. The extent of this practice warrants the assertion that to be ignorant of the fundamentals of mathematics is to be unable to read current literature with intelligence. In October, 1943 when the so-called "Big Three" met at Moscow, a full page picture of Josef Stalin appeared on the cover of *Newsweek* and this distinguished gentleman was referred to as "The X in the International Equation as the Moscow Conference Opens." The meaning wrapped up in this concise and suggestive statement is forever hidden from the man whose intellectual equipment does not in-

clude a conceptual understanding of the equation. Nor is the study of algebra any guarantee that the meaning of the author will be recognized for when 78 pupils who were completing their first year of algebra, were asked to explain what the author was trying to say there were only three who really recognized the significance of his language.

What is understood by a reader when he is informed through the columns of his daily paper that:

Congress is preparing to do violence to our inch.

One hundred minutes equal one hour.

Twenty hours equal one day.

By order of Dr. Wilhelm Frick, Minister of the Interior, the German Land Survey Department will adopt a circle of 400 degrees.

How can man tamper with these fundamental measures so essential to society and what is the effect of such statements on a bewildered reader? Will he agree with the lady who wrote to a member of the World Calendar Association, accusing him of being a heretic, and saying, "I want the calendar to stay in its present form just as God made it," or will his conceptual understanding of measurement be such as to recognize that all measurements have no real existence in any absolute sense but are valid only because of agreement? Is his understanding of "the fundamentals" such as to cause him to stand firmly and squarely for the status quo or will it encourage him to support intelligent and considered change?

A recent advertisement of the Comptometer Company appearing in many magazines pictures a "googol," accompanied by a statement that the number of rain drops falling on Chicago in a century is less than a "googol" and states that "When one is dealing with such figures accuracy is not to be expected." What does the author mean

by this statement? Is accuracy dependent on the size of a number and how large must a number be before "accuracy is not to be expected"? When the Federal Government reports that American casualties in World War II number 1,049,104 is that an accurate number or is it "too large" to be accurate? According to the Yearbook of American Churches for 1945, church membership in the continental United States totals 72,492,669. Does the size of that number raise a question concerning its accuracy or can it be relied upon? In a recent publication the population of the United States in 1940 is given as 131,669,275 while that of Russia for the same year is 165,847,000. Should a reader consider that each of these numbers is accurate? Is either of them accurate or are they both only estimates? As of June 1, 1944 the Bureau of Census at Washington "estimated" the population at 138,100,874 persons. Is this number as accurate as it appears to be or is this appearance of accuracy misleading? Reliable interpretation of these and similar statements which are constantly appearing in the daily press requires a conceptual understanding of number and measurement which investigation reveals is sadly lacking among our "educated" citizens. They may be effective and reliable operators but they fail to recognize that the results of their operations are no more reliable than the accuracy of the numbers they feed into them.

There recently appeared in a national magazine of wide circulation an interesting article in which the ideas of a number of political figures were analyzed and contrasted. Some of these men were natives of Ohio and following a brilliant discussion in which startling differences were clearly defined the author pointed out that "these differences could undoubtedly be justified by

the non-Euclidean character of Ohio politics" and it is altogether likely that this statement had no significance for 99.44 percent of the readers of that magazine. What is meant by the term "non-Euclidean"? Official records reveal that the number of pupils who graduate from high school with no knowledge of Euclid is steadily increasing, and here is a man writing for the intellectual consumption of laymen who glibly assumes that readers understand the significance of such a term as "non-Euclidean."

The fundamentals of mathematics as defined in this report include among other things the development of ability in "logical, relational and imaginative thinking" and there is no more effective channel available for the achievement of this desirable result than that of demonstrative geometry. Through appropriate methods of teaching the pupil can be led to recognize the significance of precise definition in any area of thought as well as the important principle that to accept a set of assumptions is to accept the conclusions to which they logically lead. The work of Lobachevsky, Bolyai and Riemann can be used with startling effectiveness to develop the idea that the validity of a conclusion depends upon the validity of the assumptions from which it is derived and that a change in any one of these assumptions is likely to change the conclusion. Such ideas are of far-reaching significance in their social applications and we might be reasonably sure that a pupil familiar with these kinds of fundamentals would recognize the full significance of such a phrase as "the non-Euclidean character of Ohio politics."

Mathematics is a science, and it is a science which has profoundly affected the course of human society. As teachers of mathematics we have a two-fold responsibility for we must develop in

pupils not only a deep and comprehensive understanding of mathematics as a science, but also an ability to use the concepts and ideas of mathematics in dealing with problems of human con-

cern. To be faithful to this obligation is to develop citizens who will understand the significance of the statement that "mathematics is, indeed, one of the great social sciences."

CHAPTER IX. THE FUNDAMENTALS AND MENTAL HYGIENE

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THE deeper aspects of the relationship between personality maladjustments and achievement in mathematics have received relatively little attention in the literature. There are, however, some general principles which have a bearing on the problem, and teachers of mathematics should be aware of them. There is also a basis for the charge that the conventional school, and in particular, conventional teaching of mathematics, all too frequently fails to meet the pupil's real needs (at least as he sees them) and may actually have a destructive influence on his development. On the other hand, if mathematics is taught so as to develop understanding of orderly, systematic, quantitative thinking and problem-solving, with deliberate effort to show its use in genuine life situations, it can make a real contribution to the normal adjustment of the individual.

Mental hygiene consists of the application of certain principles, chiefly from psychology and psychiatry, in the prevention of inadequate adjustments and in the processes by which maladjusted persons are restored to normal status. Prevention is obviously better than remediation. It is important not to confuse causes and effects, or to confuse symptoms with causes. Many teachers "explain" the failure of a pupil by calling attention to his misbehavior, his excessive number of absences or his truancy. They do not recognize that it is more likely that

these are a consequence of the failure—a form of escape from a situation intolerable to him. It is also important that his behavior be analyzed and interpreted, rather than judged.

The primary sources of the difficulty which some pupils have in learning mathematics are found, first, in the abstract and general nature of the concepts and skills, and second, in the demands for accurate and impersonal responses, which are characteristics of the subject. Pupils who at a particular stage of development are unable to grasp the concepts, or who, for one reason or another are incapable of the necessary abstraction and generalization, are unduly frustrated. As was pointed out in Chapter III, the development of understanding, meaning, and significance, as a prior or at least a concomitant step in learning mathematics, is indispensable. The neglect of, or a superficial application of, this doctrine is undoubtedly a dominant cause of those learning difficulties which are not the result of more deep-seated personal or physical maladjustment. With respect to the latter, the teacher of mathematics usually can do little that has special reference to his field, but can seek to understand the pupil's personality and problems, and in some cases help bring him into contact with persons specially trained in psychology and related fields.

Assuming that understanding and significance are preeminent, and that

achievement is reasonably normal, the pupil of mathematics can usually develop certain feelings of security, of order and system, and of generalized approaches to or methods of solving problems, which promote not only his control of the environment, but also his normal adjustment. This is a contribution growing out of the nature of the subject itself. It must be noted, however, that the concepts and abstractions of mathematics are less readily accessible by unguided observation than most of the things a pupil has to learn. Many other kinds of ideas are picked up not only through formal schooling, but also by daily contact with parents and friends, from the newspaper and other reading materials, from the radio and the movies. Mathematics, perhaps more than any other subject, requires a skilled and understanding teacher. The teacher who painstakingly develops concepts before rushing on to skills, who helps to abstract and to generalize, who enables them to learn general methods of attacking problems, is working toward objectives which are thoroughly sound from the mental hygiene point of view.

A second characteristic of mathematics is the unusual extent to which it demands accurate and impersonal results. In arithmetic the pupil first encounters precision of high order. In other situations which are less demanding of accuracy or precision of response, the individual may escape by a partial answer or rough approximation. In many situations, a personalized response may be the normal expectation—it may be an opinion, a statement of like or dislike for a poem or a musical selection (with or without reasons), or for an art product which expresses some aspect of his personality. In mathematics such avenues of adjustive behavior are greatly restricted. Tension-reduction and satis-

faction are often not so easy to attain. A feeling of inferiority may develop, and normal progress may become increasingly difficult.

There is evidence that every child of normal intelligence can acquire competence in mathematics. To succeed he must ultimately develop accuracy, and by proper methods the teacher can help him come to value this as a source of security in solving his problems. The greater his achievement in the field, the more likely it is that this result will follow. If he is an imperfect learner, and his work is punctuated with errors, it is much less likely that he will profit in this way. Consequently, teachers should avoid seeking speed at the expense of accuracy, or the giving of long assignments of a sort which will drive the pupil to "cover" in a hasty or superficial manner. The pupil should learn to check, to suspend judgment until the conclusion is established, to be more sure of himself. The impulsive person is usually more likely to develop symptoms of maladjustment or neurotic tendencies than less flighty types of persons. The desirable types of objectives for instruction in mathematics mentioned above thus suggest a second way in which the teacher can promote mental hygiene.

There are also several general principles of method which are not peculiar to instruction in mathematics. These pertain to the teacher's methods of responding to pupil difficulties. There is statistical evidence that "emotional blocking" in learning situations occurs in connection with mathematics more frequently than in any other field. If a difficulty in learning is met in the early stages by criticism, scolding, scorn, or threats by the teacher, a type of fear-conditioning may occur. Emotional turmoil inhibits an intelligent and constructive attack on a problem. The situation may be further aggravated in

the home by criticism or by some type of reaction by the parents which connotes punishment. Mathematics then seems to stand between the child and his accustomed source of satisfactions, and an unfavorable emotional attitude toward the subject develops. In some cases, he may more or less unconsciously build up his symptoms because they help to make him unique and so serve as substitute satisfactions for those which usually accompany normal or successful achievement.

With reluctant learners, especially, it is important that criticism and punishment for failure should be avoided, and accomplishment, however meager at first, should be praised sincerely and generously. Investigation has shown that praise is superior to reproof in motivating achievement, and that in time the effect of continued reproof for inadequate accomplishment wears off. Moreover, there is an increasing body of opinion and evidence that the competitive elements in school marks are unhygienic. School marks or appraisals must be accomplished with these competitive elements eliminated from the evaluation methods and devices.

The unrestricted application of the point of view that genuine understanding must be developed before a pupil is expected to go very far with a given learning task implies some changes in the curriculum. When it is demonstrable that certain materials can be understood only at the expense of excessive effort, these must be omitted

or postponed for those pupils who are likely to be damaged by imposing these demands at a given stage of development. This is by no means a new idea, but it bears repeating in this context because teachers so often assume that somehow it will do the pupil good to meet an insuperable obstacle—"he has to learn sooner or later what failure means." This is true, but it is not necessary for the school to induce failure needlessly. In spite of every effort the school can make to prevent it, every pupil will still have ample opportunities to acquire the meaning of failure in varied situations. This is no plea for "soft" education. The point is that forcing the pupil to face tasks incommensurate with his ability is not good from the mental hygiene point of view.

It is thus evident that, even without highly specialized training in the principles of mental hygiene, the teacher of mathematics can so arrange affairs as to exert positive forces toward the adjustment of pupils. Good training in the facts and principles of child development is of course a distinct asset for teachers, and one of the greatest weaknesses in most teacher-training programs is the lack of adequate provision for study in this direction. However, a sincere effort to understand children, to study their learning difficulties and their problems, and to apply modern principles of sound teaching in general, will go far in providing an environment which is consistent with mental hygiene.

CHAPTER X. AN INTERPRETATION FOR ADMINISTRATORS

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ADMINISTRATORS who do not have extensive training or teaching experience in the field of mathematics tend to possess an over-simplified concept of the fundamentals of mathematics. The 'fundamental operations' are thought to be the same as the 'fundamentals of mathematics.' This concept has its counterpart in the field of English when it is assumed that facility in saying words constitutes reading. This bulletin is offered as help to busy teachers and administrators of the North Central Association schools; its purpose is to broaden the concept of the fundamentals of mathematics and to offer suggestions which will help in the planning of an improved mathematics program at the secondary school level.

Upon the receipt of this bulletin, the administrator has two immediate responsibilities. First, he should read it carefully and, second, he should request his mathematics teachers to read it. A conference is then advisable. In conference, an adequate interpretation may be achieved. If not, it will have served the purpose of focusing attention upon the existing mathematics program,—its quality, its adequacy, and the basis by which evaluative conclusions are drawn.

Chapters I and II serve as a backdrop for a consideration of the fundamentals of mathematics. The basic assumptions given in Chapter I set the stage for the presentation of the point of view, and, subsequently, for the following chapters which deal with more specific phases of the mathe-

matics program. The quotations presented in Chapter II give one a sense of balance and perspective. It is well to know that the pendulum has been swinging for a long time. The extremes have been experienced in American secondary schools with respect to both the worth of mathematics and the methods of teaching. Once again, secondary schools must face the challenge of readjustment in the field of mathematics.

The chapter on the "Point of View" is simply stated and there is no escape from its implications. It contains a challenge to administrators and mathematics teachers to turn their backs on the 'either-or' philosophy of mathematics instruction. The tendency to join one or other of opposing camps has done much harm to the sound development of mathematics in the elementary and secondary schools. The point of view makes clear that *there must be a mathematical aim and a social aim*. The two aims must be realized through the same mathematics. The key factor in the point of view is understanding. Understanding is important to the application of the mathematical processes to real situations in which a satisfactory solution depends upon one's facility in mathematics.

The first three chapters should provide a sound basis for the first administrator-teachers conference. The administrator cannot abdicate his responsibility for leadership and, therefore, must initiate this conference. The administrator might well give his

interpretation of the bulletin and invite the teachers to correct, enrich, or question his conclusions. In turn, the teacher should make clear wherein his program meets the two aims stated in the "point of view." Evidence should be called for and presented. The evidence appropriate to indicating the aims of present and existing courses may take the form of a summary of the text material used, the type of class activities most commonly used, and the forms or bases by which evaluation is accomplished. There is little profit in creating illusions—yet that is precisely what is done when the claim is made that we teach for understanding when the texts, workbooks, class procedures, and evaluating devices in use belie the fact.

Chapters III through IX were written by competent and recognized scholars in the field of mathematics. They subscribed to the common point of view and each one wrote with that as the point of reference. Time after time a new approach to the accomplishment of the two major aims is given. The importance of understanding is the most persistent theme in the bulletin. The *understanding* so often mentioned is something that is to be found in the pupil. Consequently, the considerations are pointed more directly to the learner than to the items of arithmetic or the materials and processes of mathematics, *per se*.

The planning of a mathematics program in which the learner is the central figure makes necessary an adequate program of evaluation and guidance. Evaluation requires appropriate instruments and the ability to interpret the results. The mathematics teacher or the director of measurement and evaluation should be the more appropriate personnel for the selection and administration of tests. This function, however, is very dependent upon

the administrative provisions made for funds and staff time. It is essential that administrator-teacher cooperation be ever-present.

Organizational provision alone is of no benefit unless the program is directed to some specific goals. Some specific goals are suggested in Chapter V. Here again is an expression of the aim of instruction, namely, to assist the learner to understand. This chapter presents a clearcut proposal for a multiple track program. It is better to learn a few things well than to learn many poorly or not at all. The proposal for the multiple program is in harmony with the point of view stated in Chapter III, the discussion of the specific processes in Chapter IV, and the consideration for pupils of low competence in Chapter VII. Some specific statistical devices are recommended in Chapter V. The author suggests rather than prescribes the techniques. There is ample opportunity for deviation to fit a particular school situation.

Another phase of the guidance responsibility which persists in the bulletin is that of providing for all students rather than worshipping a single track mathematics program. This is clearly and forcefully stated in Chapter VII. Pupils of low competence are not to be eliminated; they are to have an opportunity to learn that which they can learn.

If all these things are to be done, it will call for a combined attack by administrators and teachers. There is little use in charging the teachers with initiating and maintaining a multiple track program unless the school organization can adapt to such a plan and unless there are administrative provisions for its support. In other words, this bulletin must not be 'read by title' by the administrator, sent by messenger to the teacher with the notation "Do something about this!"

Another point at which cooperation will be essential is in Chapter VI in which maintenance problems are discussed. The bulletin in general holds that understanding will result in better learning, even with respect to the specific processes, but it does not at any point claim that effort toward maintenance will not be needed. Consider for a moment what happens after pupils "finish" their formal mathematics in high school. They continue in school but most have little contact with formal instruction in mathematics after the sophomore year. Who will be responsible for maintaining the development or learning in mathematics? The administrator helps not at all if he sits in his office and complains that "It should have been taught better in the first place." The mathematics teacher disclaims responsibility because he no longer has the students available to him. The science teacher is busy teaching his science. Thus, we have been riding the merry-go-round—still failing to organize for a maintenance program.

The administrator must take the lead in providing remedial or "brush-up" opportunities. The mathematics teacher must provide the "know-how." The teachers of other subjects must cooperate in a follow-up testing program as well as in the maintenance and remedial activities.

Much has been said and written about the application of things learned in school. This bulletin rests its case on teaching for understanding in order to develop good skills and to realize the social values of mathematics. The processes are emphasized in Chapter IV and the Social Applications are illustrated in Chapter VIII. There is no conflict between these two chapters. Each one is based upon the same criteria—understanding. It appears quite conclusive that the same mathe-

matics can be used to achieve both the mathematical aim and the social aim.

Unless some sensible planning is done in adapting mathematics instruction to the interests, capacities, and needs of high school students, there will continue the tendency to permit many pupils to discontinue its study at the earliest convenient opportunity. If, as has been the practice during the war, more pupils are forced into an inflexible program, there will be an increasing maladjustment because of it. It seems apparent that Chapter IX was included for this reason. Here again, understanding is the keynote. It is unwise to attempt to teach phases of mathematics which can never be understood by the pupil. On the other hand, administrators and teachers should not be too hasty nor too determinative in coming to conclusions as to whether a pupil can or cannot understand certain phases. Continuous appraisal and guidance is essential.

Some educators may be concerned with the absence of a list of items which might be termed *the fundamentals*. Reference is made to such a list in Chapter IV. The contributors to the bulletin had no desire to give a list which might be interpreted exclusively as *the fundamentals*. All such items might be fundamental but only when they can become a part of the understandings of the pupils. Thus, the fundamentals vary according to the learner in his environment and according to his capacities and his needs.

There is no simple formula for determining the fundamentals or the way to achieve them for all learners. It is time to dig below the surface of static mathematics programs and develop new programs which will *place the premium not on skill performance alone but upon solid understanding on the part of all pupils in as many phases of mathematics as they can achieve*.

A SECOND ATTACK ON READING PROBLEMS IN SECONDARY SCHOOLS

By the Subcommittee on Reading¹ of the Committee on Fundamentals

ABOUT two years ago the Committee on Fundamentals, through the Subcommittee on Reading, published a monograph, *Attacking Reading Problems in Secondary Schools*. The Bulletin was so well received that the supply was soon exhausted and a reprinting was necessary. At the time the Bulletin was published a questionnaire was sent to North Central high schools. One of the questions indicated that most schools were concerned with the problems of teaching reading, and that many had "done something about it." Accordingly, it seemed desirable to locate some of the better practices and describe them for the member schools.

To accomplish this purpose a second sub-committee was established to follow up the first Bulletin. Since the committee began its deliberations we have had numerous inquiries about it. Undoubtedly, this Bulletin will be as warmly acclaimed as was its predecessor. Its only fault is that it cannot describe many programs which deserve notice; that is inevitable in an article of such limited length. *A Second Attack on Reading Problems in Secondary Schools* is a worthy companion to the first Bulletin.

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CHAPTER I. THE PROBLEM RE-STATE

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FROM the very beginning of public education in the United States one of its great purposes has been to insure, through the diffusion of knowledge and means of gaining knowledge, the free status of every citizen. The ability to read is the most important means of gaining knowledge. It gives to the American citizen his sense of being a free man. He may gain much information from the movie and radio, but he is limited at any one time to the relatively few programs available to him. In reading he has always the choice of thousands of books and countless magazines and newspapers. It is in this choice that he finds the freedom which is so necessary for a citizen in a democracy.

¹ Gwen Horsman, W. Robert I. White, William R. Wood, and Richard Bardwell (*Chairman*).

Until recently the American high school has accepted very little responsibility for the teaching of reading. The high school has assumed that the ability to read was, or should have been, acquired in the elementary school. This assumption was probably justified in the 19th century when only a small fraction of elementary school pupils went on to high school. This small fraction of pupils was composed largely of those who had the capacity to acquire new reading skills with very little assistance from high school teachers.

Today the composition of the high school student population is changed from that of the 19th century. In many sections of the country over 90 percent of all students now go on to high school. Many of these students have not ac-

quired the ability to read that they need in order to be successful in the various high school courses. And this means also that they do not have the ability to read that is necessary in the occupations and the life situations into which they will go as citizens of a democratic world.

Today tremendous demands are made upon our reading, both in our occupations and in our role as citizens. Every man now has an obligation to keep informed on social, economic, and political problems which have become world-wide and increasingly complex. As workers and as citizens, we are today encountering words and concepts that our teachers of yesteryear never dreamed of. Because our life is so greatly changed and so changing from year to year, the need for continued teaching the high school student to read becomes more and more apparent. If the individual is to adjust to new conditions, he must gain wide knowledge concerning many different social issues, political problems, scientific advances, industrial and economic progress, and the tensions which result from inequalities in that progress. The need for wide knowledge is particularly pressing upon the citizen of a democracy. In totalitarian states the intellectual pabulum is carefully prepared and administered to the population in appropriate doses. . . . The welfare of a democracy, on the other hand, depends on the existence of an informed citizenry able to think critically about the problems that confront the entire group.¹

If the high school student continues his education at the college level, his need for a high level of reading efficiency is apparent. Indifference of high schools to the need for guidance or instruction in reading may account for

many of the student failures in college. In some classes 20 to 25 percent of college students have been found unable to read with understanding the materials ordinarily assigned.² If a well-organized and well-staffed program of reading instruction in American high schools could be universally provided, the failures among college students might be considerably reduced.

In the survey of North Central High Schools made in 1945 by the Research and Service Commission covering instruction in the fundamentals of learning, 59.1 percent of the 2270 high schools reporting indicated some organized plan of reading instruction. This suggests that the majority of North Central Association high schools have come to recognize that it is the responsibility of the high school to improve the ability of students to read. This means, of course, not only reading in general literature, but reading in each one of the content fields. The teachers of these content fields are recognizing that the ability to read is synonymous with the ability to study, and the successful achievement of every student is dependent in a large part on that ability.

Your committee on reading in submitting this report is attempting to present in brief form those factors in a reading program which will be of greatest help to high schools in the improvement of their reading programs. These include: First, a digest of the fundamental principles in the teaching of reading to high school students; Second, case-studies of excellent high school programs now operating in our own membership; and, Third, a statement of criteria by means of which the high school principal may evaluate the reading program in his school.

¹ Cross, *Reading in General Education*, pp. 2-3.

² Book, "How Well College Students Can Read," *School and Society*, XXVI, pp. 242-48.

It is hoped that this material will be of aid in promoting improved reading instruction programs, and that it will

supplement effectively the first report of the subcommittee on reading published in 1944.

CHAPTER II. PRINCIPLES OF TEACHING READING TO HIGH SCHOOL STUDENTS

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MANY times within the last few years we have heard the statement, "The children of today cannot read." Within a school system the upper elementary teachers are asking what the primary teachers do to teach children to read. The junior high faculty want to know what was taught in grades four, five, and six to promote reading efficiency. The faculty members in senior high school are frantic when students are unable to fulfill assignments due to their inability to read the textbook. They want to know what happens in grades seven, eight, and nine. Let us face the situation honestly as we consider some facts which bear on this problem.

In the first place the generalization made in the opening sentence is untrue. All teachers of any subjects whatever know and admit that there are many fine readers in their classes. Since there is no need to complain about these students, we seldom mention them. Our attention is focused on the boys and girls who are unable to carry out school assignments because of their inability to read.

What do we mean when we say "cannot read"? Cannot read *anything* or cannot read *on grade level* or cannot read *as well as children used to read?* High school teachers readily admit there are only rare cases of children who cannot read anything. These few students either struggle through on their ability to remember what they see and hear or they finally drop out

of high school, often becoming interested in a job which, in a few years, may pay them satisfactory returns. A follow-up on such cases often reveals the fact that these students have learned to read materials which are essential to success in their particular fields.

What about children who cannot read *on grade level*? There are far too many in this group and concern on the part of teachers is an encouraging sign toward a successful remedy. But we must recall that in any class there always has been and always will be a *minority group* which is not working on grade level. Almost any time three persons are gathered together, one is advanced, one is average, and one is retarded, as they are compared with each other. That is life. That is what we must expect in a class of heterogeneous grouping. It is to be found even in the most carefully selected homogeneous group. But when the *majority* of pupils are so-called retarded readers, it is high time to take account of our educational procedures.

We might eliminate many of our teaching difficulties if we ask ourselves this question first: Is the *text* my class is required to read written on the grade level which I am teaching? Many a teacher, after such an appraisal, has discovered the text to be on a university level of learning. Careful replacement of it has solved her problem! Her class was not retarded, they were simply swimming beyond their

depth. Thoughtful and considerate selection of a textbook is a serious responsibility of every teacher in every field of learning.

Teachers and taxpayers, alike, should realize the far-reaching effects of compulsory attendance laws in the educational program. These laws brought overcrowded classrooms, heavy teaching loads, inadequate teaching materials and the addition of a great mass of students which never entered the halls of learning before these laws were in effect. We are required to graduate from our high schools pupils whose ability and attainment levels are admittedly lower than those of high school students of twenty years ago. Little provision has been made during the years to plan for and accommodate this level of learning. Nor has any new program, with the exception of a limited amount of vocational training, been introduced which will consider the needs and interests of this group of future citizens who will never go to college.

Finally, let us consider the statement that children cannot read as well as children used to read. We heard this criticism often during the early period of the war when large numbers of draftees were not inducted into the armed services because of illiteracy. Dr. Tyler¹ answers these attacks on the effectiveness of the schools by saying, "The definition of literacy has sharply changed since the last war. In the first World War an illiterate was defined as one who could not read or write. In this war an illiterate is defined as one who cannot read with fourth-grade ability. This change constitutes a great rise in standards when it is remembered that in the last war the

average recruit could read with only sixth-grade reading ability.... When we compare the average member of the armed forces in 1944 with the average in 1918, we find that, in terms of educational standards, the men of 1944 are four years ahead of those of 1918. The average reading ability has improved from sixth-grade to tenth-grade in twenty-five years."

The children of today can read as well, and much better, than the children of the last generation. The *breadth* of reading today, when pupils are reading in fields which demand a knowledge of extensive vocabularies, makes the program of yesterday look narrow. Never in history have children been confronted with such a mass of printed materials. In many homes the radio has become the medium of entertainment where adults, as well as children, are spending their leisure hours *listening* instead of reading. While for many this type of entertainment has taken the place of reading, for countless others it has been an incentive for further reading. Picture magazines and motion pictures which promote the ability to learn through *looking* often awaken potential interests which are followed up through avid reading. Because the children of this age do not depend so heavily upon reading for knowledge and entertainment does not mean that they cannot read.

Let us shift our concern and attention from the thought that "the children of today cannot read" to the much more vital issue of "*how can we teach children to read better?*" The following pages will be devoted to practical suggestions for teaching pupils how to read with a greater degree of efficiency and a higher level of interpretation. Certain fundamental principles underlying good teaching will be reviewed.

¹ Ralph W. Taylor, "What the Schools Can Learn from the Training Programs of the Armed Forces," *Elementary School Journal*, May 1945, pp. 495-502.

HOW CAN WE TEACH CHILDREN TO READ BETTER?

Specialization in education has done much to raise the standard of teaching. Schools are filled with highly trained staffs of teachers who are able to bring into the classrooms rich backgrounds for study in particular subject matter fields. These individuals are teaching daily in an area which is of lively interest to them after many years of study in it; much time and money has been spent to broaden and extend knowledge in a certain sphere which held only a potential interest at the start. Teaching now *seems* an easy task to the specialized teacher due to this vast amount of resource material upon which he can draw. At this point a fact of great importance must be recalled and recognized, i.e., the *students* enter a particular classroom with no background whatever for study of the subject nor even a potential interest in it. Most of them are there because on their schedules this is the assigned subject for this hour. One outstanding fault in specialized training is its tendency to promote a selfish attitude in teaching. It must be remembered that the interests and backgrounds represented in a schoolroom are as varied and numerous as the number totaled on the enrollment sheet. What, then, can a teacher do and wherein lies his responsibility?

First, it is necessary that he is, or makes himself, a supersalesman. Imagine what high grade salesmanship qualities are necessary to stimulate forty odd pupils to read avidly three chapters in social science concerned with the cave man when daily they are privileged to experience superman activities! It requires considerable vitality to sell a murder story such as Poe's "The Cask of Amontillado," with its difficult vocabulary and concepts, to a group of students who can

spend the evening relaxing luxuriantly in a theater which runs on its bill "The Circular Staircase." Suspense and thrills come easily today and can be experienced with no mental effort whatever on one's part. It is so much easier to get Marie Curie's story of radium in the theater than from a science textbook—easier to assemble a piece of furniture by observing the pictured illustrations than by reading the difficult instructions on the sheet provided by the shop instructor.

It is the teacher's responsibility to make children keenly aware of the vast numbers of interesting things in life which can be experienced and enjoyed through one medium alone—*reading*. They must be made conscious of the *privileges* offered us on the printed page. Students interested in radio construction will find neither a current movie nor magazine which can give them the information needed. A certain amount of research is necessary for achievement of their purpose. Through helpful suggestions the teacher starts these pupils in their first real *reading* experience. A group of girls, eager to know more about the field of nursing or designing (they never seem to want to know more about teaching) are guided and helped by a sympathetic teacher in locating books and articles which keep them busy doing constructive planning. Out of the students' own interests must grow the need for better reading. If more time were spent by teachers in helping children realize the values in reading, a much higher percentage of them would *like* to read today. It isn't *what* they learn that is important; it is *how* they learn it. Almost any good textbook develops interests in many fields if the teacher will take the time and trouble to point them out and stimulate discussion of them. The planned curriculum is merely a springboard toward further-

ing and broadening pupil's interests.

In almost every walk of life a guide is needed, whether provided by an outside source or by ourselves. The teacher should be thankful for the curriculum he is given to follow. He needs to understand what are his goals and by what road he can most efficiently reach them. The curriculum outlines the goals in a given course and suggests roads by which they can be reached. How can this curriculum, then, be most effectively used? The answer involves certain fundamental principles in teaching. A brief discussion of each may bring to mind some methods and techniques which have become rusty through years of disuse.

FUNDAMENTAL PRINCIPLES UNDERLYING GOOD TEACHING TODAY

Today we are teaching all of the children of all of the people. The less selective the school enrollment, the greater the number of deficiencies found among the student body. The enriched curriculum requires a knowledge of reading skills far greater in difficulty than those required to master the "reader" of twenty years ago. The popular so-called one hundred percent promotion plan sends into the secondary schools many students who have failed in one field or another. In a surprisingly large number of school systems guidance in the teaching of reading ceases at the completion of the sixth grade; in all too many systems it is discontinued at the end of the third grade. The rapid social change from a quiet agricultural community life to a confusing whirl of industrial living forces new demands on young people today. The greatly increased amount of reading materials requires a broader knowledge of reading skills and a keener insight for interpretation than ever before.

It is evident that the majority of

students today will not learn *in spite* of the teaching process but only *because of* good teaching procedures. The responsibility of raising the standard of teaching to promote a higher level of learning rests directly on the shoulders of the teacher. Observance of essential principles in teaching should go far in combating the causes of retardation.

In every subject in the school program the pupil is required to read. This process can truly be termed *reading* only insofar as he is able to interpret what he reads. Without comprehension and interpretation it is a mere mouthing of words. This is equally true with adults. For example: A short time ago a lady teacher was asked, in a faculty meeting, to read orally the following selection:

The bleeder plunger regulates the flow of air out of the air chamber of the power cylinder after the air by-pass in the piston rod is closed, just as the clutch starts to engage. The amount of air bled out of the power cylinder at this time depends on the number of bleeder holes uncovered by the bleeder plunger and the speed of the plunger movement, the position and movement of which in turn depends on the position and movement of the accelerator pedal.

When she had completed the oral reading she was asked questions concerning the information involved in the article. She stated, with a stricken look, that she believed she had read something about the process of driving an automobile due to the key words "accelerator pedal." When she was told that she had just read what took place each time she released the clutch in her automobile, she collapsed into her chair. To the men attending the faculty meeting the reading had significance; to the majority of the women it meant little.

Students are entering classrooms in droves with inadequate backgrounds for comprehension and interpretation of the subject matter to be assimilated

in those rooms. How evident is the necessity for an introduction period, or a *readiness* period, presented by the teacher. This calls for a preparation on his part, a time during which he goes over the subject matter he intends to teach with the idea of selecting the concepts or ideas, the words and phrases which represent these concepts, which will be new to the student body. In other words, he *anticipates* the difficulties the children will encounter. If these are carefully selected and recorded, the instructor is in a fine position for presenting the new material with an understanding heart and an enthusiastic voice. During the presentation of the new material, he encourages students to contribute ideas and comments which come as a result of experience or observation. While they are learning about a new subject, he is learning about them. From their contributions a teacher is able to gain a fair idea of students' individual backgrounds and experiences. Instruction immediately becomes a personal thing instead of following the mass production plan. Questions can now be thrown to individual students or groups of students. Pupils who exhibit a lack of the background and experience necessary for learning can be seated in the front of the room where they may receive a greater amount of individual attention than would be possible if they were in the back.

During the introduction, or readiness, period when the teacher is presenting new words and phrases (or old words with new meanings), it is important that they be written on the blackboard in a large clear handwriting that can be seen from the back of the room. Since so many people are visual-minded, it is a valuable practice to *write* the words as they come up for discussion, especially when they are

terms which are unique to a particular content field. The social science instructor is responsible for the teaching of such terms as *radical* and *conservative* since they are words which require understanding in his field. It is true that many students may be able to *read* them but to understand their significance in social science is essential. In a reading or literature class students could read with understanding such a sentence as "The *conservative* old lady did a *radical* thing in purchasing a huge red hat," and still be unable to define the terms as they are significant to social science.

In a literature class which was discussing the character traits of Frank Buck one student insisted he was cruel. When asked to justify his statement he produced as evidence this sentence from the text, "Excited onlookers watched as Mr. Buck lashed the leopard cage to the foremast of the ship." A familiar concept of the word "lash" plus careless reading resulted in toppling Frank Buck from his heroic pedestal. A teacher of an American literature group, intent on establishing a background for the reading of Poe's "The Cask of Amontillado" wrote the word *catacomb* on the board and asked for a description of it. The first contribution was a glowing description of a steep waterfall gushing over rocks high on a mountain. The concept of *cataract* carried to Poe's story of a *catacomb* would render the reading of it difficult indeed! And yet what a natural mistake. How many children have ever seen a catacomb? How many adults? Teaching words and concepts peculiar to any selection or material is a fundamental principle of teaching. Without meaningful word associations little real reading is accomplished. Thus, it follows, *every teacher is a reading teacher*.

A second fundamental principle of teaching is definite guidance in help-

ing the child to *comprehend the meaning* of the printed word. What message is the author trying to impart? Many children are able to give back the words of a printed text but fail woefully in the ability to attach any meaning or significance to them. Rote recitation, or mere repeating of words, is no measure of learning. When a student is asked simple comprehension questions such as "From what point did the journey start?" or "What did the pioneers do to protect themselves at night?" it is possible for him to give a correct answer without realizing in any way the real life lessons involved. "The journey started at Pittsburgh" may be the correct answer, but the significant fact that this would enable the party to travel swiftly by flatboat on the Ohio River instead of traveling slowly by land in a covered wagon is entirely lost to the student. The pioneers may have "backed their wagons into a circle around the campfire at night" but all the advantages which accrue from such a procedure are entirely lost on the group as a whole unless a discussion is stimulated which creates so accurate a mental image that they are able to see at once the entire situation. Lively examination and consideration of the textbook material is an essential part of classroom teaching. Unless time for it is provided (time during which *all* the students are encouraged to participate) a dull and passive student body files from the room no richer for having been there and with a "so-what?" attitude toward learning in general. Again, it is not so much *what* they learn as *how* they learn it. An inquiring attitude accompanied by sound thinking and the exercise of good judgment can be developed, under thoughtful guidance, in all students. This attitude takes into the printed page not only an interest in what the author said but an

insight into much that he *didn't* say and an idea of many things he would like to have said! Practically all children can be taught to *read the lines*, many learn to *read between the lines*, and in the classrooms are those who are gifted enough to *read far beyond the lines*. Sound teaching promotes growth in each of these phases of learning so that the printed word becomes a vital experience.

Until a few years ago when a teacher was asked, "What is your ultimate goal in teaching?" the popular response was, "To teach the children to comprehend the material in my course." Today we realize that with this as an *ultimate* goal the job of teaching is far from complete. Vast numbers of students are able to comprehend but are unable to live richer lives because of it. What they read and learn has no effect on them; they remain coldly impassive to the ideas gained through study. This lack of effect, or response to ideas, leads to another fundamental principle of teaching. Gray¹ states this principle as follows: "Good habits of recognition, comprehension, and speed of reading are not sufficient, however. Of even greater significance today in both school and adult life are the reader's reactions to, and his use of, the ideas apprehended. In this connection he not only recognizes the essential facts or ideas presented but also reflects on their significance, evaluates them critically, discovers relationships between them, and clarifies his understanding of them."

If a teacher accepts the responsibility of teaching so that students will experience a *reaction*, what are some of the techniques involved? Consideration of some of the reading problems faced by boys and girls will suggest a few of

¹ William S. Gray, "Recent Trends in Reading," Volume 1, University of Chicago Reading Conference Proceedings, 1939.

these techniques. After children leave the primary grades, where their aim is to *learn to read*, they begin intermediate grade work which stresses a complete about-face; they *read to learn*. This latter phase presents so many difficulties, as they continue it through life, that careful and considerate guidance is necessary. Experiencing, vicariously, events of other times and scenes in new places requires the skill of making mental images—a skill most children must be taught before they can interpret any reading material which is so far removed from their experiences. The teacher can aid in the development of this skill by providing time in which he can help the students draw comparisons and contrasts between life as they know it and life in a remote time and place. Discussions of pictures, slides, movies, museum models, and exhibits will help build a background for the study of material which is outside children's experiences. Reading aloud to the class or having members of the group read aloud goes a long way in giving the background necessary for interpretation of concepts.

In many school systems emphasis is placed on "covering the curriculum." This emphasis makes the harassed teacher feel that time spent in reflection on ideas, in critical appraisal of them, and in discovering relationships between them is outside the purpose for which he was placed in the classroom! He feels he is there to get the pupils through the book. But when the emphasis is spent on reflection and critical appraisal of ideas and the relationships between them throughout a child's school career he is able, as he progresses through the grades, not only to cover the curriculum but to read extensively printed materials that go far beyond the realms of the classroom textbooks.

Children will live to grow up, marry, and have families without a knowledge of the length of the River Nile, nor the altitude of the highest mountain, but they cannot lead the rich life, to which they have an inherent right, unless they have been taught how to think. Teaching students *how to think* conditions them in *what they think*. Would that the modern classroom were a place in which children were taught to reflect, meditate, and think profoundly on issues that govern the highest kind of living. In many schools it is.

The *application* of the ideas learned is an important part of education. And yet, today, our schools are filled with children who have committed to memory the weighty textbook disclosures without the remotest idea as to *what to do about them*. Why has this fourth fundamental principle of teaching fallen down in so many instances? Perhaps because it has been taken for granted that a fact learned will be applied. When a science teacher has taught that metal expands when heated, has he not done his job? No! When a child is caught in a spot where that piece of information might help him, he does not recall an image of the teacher, the classroom, nor the fact. He is just stuck. If at the time the fact is taught every possible effort were made to fit it into definite and specific life situations, the words become a part of living. In fact, children will *seek* an opportunity to use ideas gained through reading. They are proud to know them and anxious to see them work.

SUMMARY

The continuation and extension of a definite program to promote growth in reading power must continue through the high school since students are required to read materials which

become progressively more difficult to interpret. Every teacher is responsible for teaching the vocabulary and concepts essential for understanding in his field. The texts provided in each class should be on the level of learning of the pupils. A thorough presentation of the lesson is one of the most vital steps in the teaching process. Definite guidance in understanding and interpreting the printed message must be given on any grade level. If each day

of teaching aimed to help students experience reactions which stimulate them to profound thinking, accurate evaluation, good judgment, clear reflection, and thoughtful interpretation, it could be considered a day well spent. And finally, ideas gained in the classroom are of no value if they remain there when the students file out. The application of ideas leads to the enriching of personalities and the solving of personal and social problems.

CHAPTER III. TYPICAL PROGRAMS OF HIGH SCHOOL READING INSTRUCTION

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IT IS the purpose of this chapter to set forth examples of current practices in the teaching of reading, both developmental and remedial, at the secondary school level. While as many different types and sizes of schools have been included, the primary emphasis has been upon the selection of representative schools where positive programs of reading instruction are in progress. By the time this statement reaches print, perhaps better examples of good procedures in attacking reading problems may be cited, for it is now evident that teachers everywhere are genuinely concerned about helping all high school boys and girls improve in reading. *The Problem Has Been Recognized.* In a recent North Central Association survey only two or three indicated that they think instruction in reading is a task to be performed entirely by the elementary teachers. An encouraging percentage of schools recognize that reading involves all secondary school teachers and not members of the English Department alone. A real gain is evidenced when science teachers, for example, accept responsibility for a developmental

reading program within their subject-matter field.

Perhaps the greatest advance has come in the development of objective testing techniques that aid teachers in discovering specific reading deficiencies. Out of 418 North Central Association secondary schools reporting, 409 regularly include reading comprehension tests as a part of their general objective measurement program. In many instances reading tests are the only objective tests used by a school.

Since an increasingly high percentage of high school teachers are now familiar with the techniques necessary to the successful administration and to the intelligent interpretation of such tests, the results obtained may be considered both valid and reliable. The pupil's cumulative school record which contains his teachers' subject appraisals and observations provides additional information on his reading habits and abilities. *Specific Reading Deficiencies of Individual Pupils Are Being Discovered.* At this point the much-travelled broad highway narrows to a faint path that fades into the wilderness. Too frequently we know so

much and do so little about our pupils' reading problems!

In general it is commonly assumed that any developmental program of reading is strictly the individual English teacher's business. If the teacher happens to be a good one, a good job is done. Or in the words of one reporting principal, "Ours is not a very good system. It's all left to teacher to determine deficiency and remedy same. Good teacher—good job, etc." Far too often, however, reading instruction in a high school English class is a very haphazard affair. There is rarely a well-planned, coordinated attack upon reading problems. Many teachers seem to be too busy getting pupils to read more books to find time for definite reading instruction. When pupils fail academically because they are poor readers, they are put in a remedial English class, if the school is large enough to support one, and all hands consider the problem solved. It does not follow necessarily that reading deficiencies are corrected in a remedial English class.

Much emphasis has been placed in recent years upon adapting reading materials to the level of the pupil's ability. This is sound in principle, but in practice it is frequently abused. It is well, of course, to begin where the pupil is, but to remain there is bad. The mere reading of simple books does not eliminate difficulties. As one administrator expressed it: "We have conducted classroom experiments in remedial reading for several years, but so far have seen no startling results."

It seems obvious from the reports submitted that unless a teacher has made a special study of remedial reading instructional techniques, the chances of success as a remedial reading teacher are something less than fair. It is for this reason that a number of schools have found it neces-

sary to curtail or abandon their remedial reading classes when their one skilled teacher resigned. Occasionally very odd experiments are attempted in the name of remedial instruction. There was one teacher who attempted to solve the entire reading problem by spending a semester on choral reading assignments. In another school remedial reading students were drilled for a half hour each day in phonetics. A principal reports: "The only thing that we do is have individual conference with the students and suggest reading material not too difficult for fluent reading." Sometimes a very gentle touch is used in tackling the reading problem: "Our teachers encourage more reading. Students are asked to participate more in extra-curricular activities requiring reading. More reading material has been added to the library." It is not exactly clear how reading deficiencies are eliminated through the addition of more books to the library.

From a study of the survey reports, a procedure pattern emerges. The typical school does a good deal of objective testing to determine reading deficiencies. On the basis of the test results and previous scholastic records, pupils are homogeneously grouped. Those who are two or more years retarded are placed in special remedial sections where progress is determined largely by the individual teacher's enthusiasm and special knowledge. Periodically, additional reading tests are given to measure progress, and pupils are transferred to classes at their own grade level if the test results and other factors warrant. The remedial class may be an extra assignment for after school hours or a replacement of the usual activities hour. Ordinarily however, it is simply a substitution for the regular English course offered by the school. In a few instances

schools which do not have specially trained teachers of reading are fortunate in being able to utilize the services of a private reading clinic.

No one is satisfied with the typical procedures that have been outlined. The whole problem of the developmental program for average and superior students is not handled in an effective way. The remedial work

seldom accomplishes as much as it should. For the ambitious teacher there are unusual opportunities ahead for discovery of new methods, for the production of better materials, and for the creation of an over-all reading instruction plan. The descriptions of current practices that follow may be of help in suggesting a point of departure to such teachers.

THE READING PROGRAM OF A SMALL HIGH SCHOOL

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THE basic necessity for a successful reading program in a small high school is a teacher, or teacher-librarian, who has at heart the sincere desire to develop in all her students a love of good reading. This development can come about only through a program based on interests and needs of individual pupils so that, through teacher-pupil planning, standards of taste may be developed by which students eventually will select the best reading for their purpose. The reading counsellor needs to know the interests and abilities of the adolescents with whom she works so as to be able to recommend the reading which will encourage each individual to improve his abilities until he has reached the point where he fully enjoys and understands what he reads. Such a program necessitates a careful selection of books and magazines for, in a small high school, the funds are limited and the needs must be carefully considered.

In our school the teacher-librarian's daily schedule includes four classes in English (the entire student body), a class in foreign language, and two periods in the library. Being in contact with all students has advantages, for this dual role makes possible the sug-

gesting of the right books for individual readers. It requires much thought and planning on the part of the librarian, but, if she has the promotion of good reading habits in her students as a real interest, watching them develop is ample reward for such an expenditure of time and study.

As an aid in diagnosing the difficulties of poor readers, we use at the beginning of the school year the *Iowa Silent Reading Tests* (New Edition. Advanced Test: Form Bm. Revised). By means of this test which measures rate and comprehension, directed reading, poetry comprehension, word meaning, sentence meaning, paragraph comprehension, and location of information, it is possible to find the nature and extent of reading deficiencies. Now, when it seems increasingly important for a pupil to be able to comprehend rapidly and to indicate his understanding of material by specific reactions, it is helpful to the teacher to have such information as this test gives since the scores provide a picture of reading effectiveness as well as an indication of habits which need to be improved in order to achieve effective reading.

Another device of aid in diagnosis is

The Profile of Communication Skills published by the Metropolitan School Study Council, New York City. Some of the main points in the reading evaluation section include: the ability to bring to a new experience what has been learned before, the ability to grasp ideas, selection of important points in one's reading, and the general effect of reading. In our school we use the profile not only as a guidance and a teaching device, but as an evaluation of the student's skill in reading at the beginning of the year and at the close of each semester. The terms on the profile are first carefully analyzed with the group and then in relation to the individual. Through five to ten-minute individual conferences held at the back of the classroom there is an opportunity for student and teacher evaluation of the student's reading skill. It is interesting to compare the student's evaluation of himself as a communicator in reading, with the teacher's estimate and that of his classmates.

Although it is important to have a remedial program for the poorer readers, in our school this program is not set up in such a way that they are isolated from the normal group. Through individual encouragement most of these students eventually become enthusiastic about reading books. Those books, of course, must have pupil-interest and must satisfy the typical craving for action and adventure and the desire for entertainment. Books that are mature in interest-appeal make reading achievement easy and pleasurable. Once a student has acquired confidence in the teacher's judgment in helping him select a book, he can gradually be aided to richer experiences through more advanced reading.

To supplement books which are high in interest content, students in the past few years have been clipping

articles which have much adolescent appeal from such magazines as *Reader's Digest*, *Coronet*, *Nature Magazine* and others. These they have stapled into booklets, with paper covers on which they have placed gummed labels giving the title of the article and kind of reading such as "Science," "Agriculture," "Aviation," etc. Filed in pamphlet boxes in the English room, these readily accessible materials are suitable for use in developing greater reading speed and more accurate comprehension of material read.

At times it is helpful to have a work-study précis of subject-matter material taken from textbooks of other classes. For paragraph comprehension we have found students interested in pamphlets issued by General Electric, Westinghouse, Metropolitan and other well-known business and industrial organizations. Such materials provide an opportunity for teaching reading skills: skimming, reading rapidly, reading for exact meaning, and selecting the reading method best suited to one's purpose.

In each class a two- or three-track reading program is carried on simultaneously, according to the needs of the group. Often there are further breakdowns, depending on the individual situation. A typical senior class in our school might have general, college "prep," and business sections. In the general section, the purpose is to stimulate normal reading experience through an extensive reading program. In the college preparatory section, the purpose is to extend students' abilities and interests through American, English, and World literature. In the business section the purpose is to read vocational materials selected in pupil-teacher conferences. Frequently these students combine their business English interests with school and community service.

In the junior English class the reading interest is centered primarily on American literature experiences which emphasize the contemporary and regional materials. The teacher makes many individual recommendations based on adolescent interests. Very often by reading excerpts from books she motivates students to read the entire story or article.

In the freshman and sophomore years basic reading is taught only when the material is adapted to the reading needs of the entire group. Otherwise members of a class are grouped according to interests, and each student explores books recommended by the reading counsellor and by classmates.

The series of booklets prepared jointly by the American Council of Education and by the Institute of Pacific Relations, contains material ranking high in student interest and having a vocabulary adjusted to school levels. The pamphlet series published by the Pan-American Union in cooperation with the Office of Coordinator of Inter-American Affairs is popular, especially with freshmen and sophomores. Both series are valuable in the study of international relationships.

In any reading program, the developmental program for all students is of major importance. An adequate appropriation for the library is a basic necessity in order that there may be a steady addition of attractive, interesting books high in adolescent interest. It is just as important that a constant culling process be going on in order that books no longer used will not be taking up shelf space. An adequate appropriation for current magazines is also imperative. It is fundamental to a developmental reading program that the teacher have an active interest in pupils as individuals. An advantage of a small school is the teacher's opportunity to be thoroughly familiar with

the home, background and personality of each student. This information is as essential to successful teacher-pupil planning for individual reading needs as is a first-hand acquaintance with a wide range of books.

In the classroom there must be an atmosphere of living with books. Since at Poynette the library room is small, we have classroom libraries, particularly in the vocational agriculture, shop, and homemaking departments. The English room is almost literally encased in books and current magazines. Because the study hall also houses the encyclopedias and books of general reference as well as the magazine racks, that room also has the reading atmosphere. Students use the encyclopedias and magazines at the reading tables at the front of the room. Thus, surrounded by books easily obtainable, the pupil is in an atmosphere conducive to reading.

There are frequent displays of new books in the library and in the classroom. Our book order is spaced throughout the year so that new books are arriving every few weeks rather than at one time. At the front of the English classroom, cut-outs from colorful book jackets mounted on a black background and displayed in wooden poster holders help to attract students to the library. Often there are jacket displays of books not yet catalogued, which very effectively stimulate interest.

There is no prescribed library reading in our school, no formal book reports or set number of books to be read; students are free to choose their own books, and on this voluntary basis far more books are read than when a fixed number was required. Besides the use of a simple cumulative record for books checked out, cards are issued at the beginning of each period so that students may record all

the reading they have done that day and write a word or two of critical reaction.

During the free reading periods which are held rather frequently, the teacher sits at the back of the classroom and reads with the pupils. Boys carry the magazine racks into the room at the beginning of the period for those who prefer to do magazine reading. For those who have difficulty finding something of interest, the teacher has specific articles to which she can refer them. She knows what is being discussed in other classes and thus is able to make recommendations for reading along those lines. It is important to capitalize on student interests in connection with their daily assignments in English and other classes. It also has a salutary effect if the teacher-librarian calls the attention of other teachers to new books in the library and encourages their active interest so the library can be made "the heart of the school" by faculty and students alike.

The purpose of the reading program described above is "to develop reading programs individually purposeful and adapted to the wide range of abilities within groups of individuals." We begin with the young person where he is and guide him eventually toward

improvement in reading skills and toward selecting reading materials on a higher level. Eventually students are self-motivated in their reading.

As has been observed many times before, one cannot set up a reading program which will fit all situations. Each school must develop its own program. Teachers need to keep in mind that there is no one best method for handling all reading problems. Because reading is fundamental and basic to life in a democracy, however, it is well worth the individual time and attention that the teacher-librarian must give to determine the reading strengths and weaknesses of each pupil and to provide individualized instruction when needed, so that each may develop the highest proficiency of which he is capable.

A check of the current number of books and magazines being read and of the type of reading in which students are engaged shows that the reading program as outlined above is having good results in this small high school which has 63% rural students. In any reading program there seems to be no substitute for active, whole-hearted, enthusiastic teacher-pupil relationships and planning, and the mutual exchange of experiences through the medium of good reading.

LABORATORY ENGLISH IN ANDERSON SENIOR HIGH SCHOOL

MARY ELLEN THURSTONE

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Anderson, Indiana*

IN THE township schools of Madison County, which send pupils to the Anderson Senior High School, and in the junior high schools of Anderson, we gave last month 700 Iowa Reading Tests, 1939 revised edition. The data compiled from these tests are very interesting and significant relative to the trend, at the present time, in the teaching of English.

12 of these 700 have the reading ability expected in the 3rd and 4th grades.

40 are on a 5th grade reading level.

78, 6th grade, making a total of 130 below the 7th grade in reading ability.

These 130 are already enrolled as incoming 9th graders in the Anderson Senior High School for next fall. All of them are at least 2 years retarded in reading ability.

In the top bracket of this group of 700, there are 67 who ranked 12th grade and above.

As the result of our experiment during the past three semesters, in the English department in the Anderson Senior High School, we have found it advisable to place these 130 who are at least two grades retarded in what we have named Laboratory Remedial English groups. The titles of our laboratory English courses have been chosen with great care in order to prevent any stigma being attached to those who are enrolled.

The 67 who ranked twelfth grade and above are enrolled in World Literature. One of the most admirable features of our plan is, I believe, that it gives a challenge to the exceptional pupil as well as makes provision for the retarded one.

All of the 700 who ranked between the 130 and the 67 are enrolled in regular 9B English.

First of all, let's take a look at the personnel of those World Literature groups, of the past three semesters. From conversation with them and from such tests as the Literary Acquaintance test sponsored by the American Council on Education, we find that they have read widely. They are interested in the publications of the Literary Guild, in the Pulitzer prizes and in the best sellers. They are eager to receive such lists as the *One Hundred Best Novels and Poems Which Every High School Student Should Know*. Referring to some individual cases which indicate the quality and quantity of work done by these groups: A 9B did a project on Edmund Spenser who, he said, was his favorite poet. A 10B studied thirty operas during a three weeks' unit on the drama. A junior read eighty-seven novels in one semester.

It has been my experience with an English class in which there was a

range in reading ability from the 3rd to the 12th grade for the superior students to be reticent about discussing their experiences. This observation was substantiated after the formation of these new groups by such statements as: "I gave a report on Omar Khayyám once and the majority of the class made me feel that they were thinking: 'Well, what did you see in his writings?'" This statement was made by an N.Y.A. worker, but a superior student in our school. It's interesting to look into the private life of such a student. This girl's mother does ordinary factory work and supports two daughters, both of whom are in high school. Although this girl is very sociable, she wasn't attending the junior-senior prom, until someone took a personal interest in her and contributed an outfit. Knowing this, it's interesting to see her loaning Literary Guild books. Just this week she was thrilled with a copy of Rockwell Kent's *World-Famous Paintings*, a new purchase in their home.

Other interesting data concerning these groups are: 31 percent expect to attend college. Only 10 percent of our total graduating class attend college.

Using such tests as the Kansas and Cross English tests, we learned that 75 percent of these pupils had a 50 percentile rating and above. These tests you know, indicate the general knowledge of grammar and English usage. Other tests given to these groups were: The California test of mental ability, the adjustment questionnaire, and the poetry appreciation test.

There was only one with an I.Q. below 100 and only one-tenth of the group with I.Q.'s below 110. The highest was 155; there were two of these. The pupils in these groups, at which we have just looked, play an important part in our remedial Eng-

lish program. Thirty-three of the ninety-three enrolled in World Literature during the past semester have volunteered to be student assistants next year. They do this work in addition to carrying a regular high school load. Instead of reporting to a study hall they report to the rooms which are equipped for remedial instruction.

Now, let's turn our attention to the remedial English groups. From our experience of the past three semesters we know in general what to expect of these 130 who are coming to us next fall, whose reading grade levels are those of the third, fourth, fifth, or sixth grades.

We have two rooms equipped for the laboratory English classes. In these rooms we have as special equipment: bulletin boards, reading tables, a magazine rack, and book cases. This, it seems to me, should be the equipment of every English classroom. In these and on these, materials are displayed to attract the attention not only of the slow reader but also the rapid reader because both come to these rooms.

We have found two outstanding advantages in having both groups come to the same room at different times. (1) There is less likelihood of a stigma being placed on those in the remedial groups (2) A display of the charts or projects of the rapid readers serves as an inspiration to many of the slow readers.

The second semester last year, 64 pupils were placed in three laboratory remedial English classes. On the day which the group first met, each pupil was given his reading test. His reading status and our plans were explained to him. The I.Q. range was from 56-109. There were six below 75 and eight above 100. We used the California test of mental ability. During the semester, emphasis was placed on the

reading skills. At midsemester and at the end of the semester, reading tests were given, to measure improvement. All but one of the sixty-four pupils showed improvement ranging from one month to three years and 4 months; the average gain was one year and eight months.

With all of the data which we had concerning these pupils, we felt it was unwise to send them, the next semester, to regular English classes. We gave them a standard English test, to determine their knowledge of grammar and English usage. The results showed a range of 6.2-8.2. The reading range, for comparison, at the beginning of the semester was 4.6-7.1. Thus our second course in remedial work was placed and has been left in the English curriculum as Advanced Laboratory English. After a semester of emphasis on fundamentals of grammar and English usage, a second test was given. All of the pupils showed improvement. The improvement ranged from 6 months to 2 years and 9 months. The average gain was a year and seven months. You will remember the average gain in reading, the semester before, was a year and eight months.

At the end of the third semester of remedial English—you will find it listed as Exploratory English in our curriculum—we decided to determine the retention of reading gains by these original 64 pupils. One year and four months had elapsed since their enrollment in the remedial work. Two-thirds of the group had not only maintained the reading level shown at the end of the semester of remedial reading but had continued to gain in Advanced Laboratory English and Exploratory English. The degree of continued improvement ranged from 1 month to 3 years and 2 months, the average continued gain being one year.

One pupil with an I.Q. of 96 had progressed from 7.1 to 12 plus during the three semesters.

Adjustment English which you find listed on this sheet is our fourth semester in this sequence of courses. Any of the original 64 who are at all retarded have been recommended for this course, which is being offered for the first time next fall.

We give each pupil an opportunity to have a test on the Keystone telebinocular. During three days this year, we tested 124. Forty-eight were found to have deficiencies and letters were sent to the parents urging them to take the pupil to a competent physician for further advice and treatment. We have had a great many pleasant experiences relative to this service. In some cases, parents and pupils were ignorant that deficiencies existed. In other cases, deficiencies had been suspected but nothing was done about it, until this evidence was presented.

Thus far, we are gratified with the cooperation which we have had from the parents, the pupils, and the doctors.

Remedial reading pupils have looked at uninteresting printed pages for so long that they come to high school with an antipathy for all kinds of reading material except the comics, pulp magazines, and in one case fairy stories. Ingenuity in motivation is one of the important factors in breaking down this prejuice. Materials must be *attractively bound* and illustrated.

One day each week, in this attempt to motivate, we use slides which we get from Indiana University. We may have *Silas Marner*, the *Ancient Mariner*, or the *Lake Country*. In this manner we get the classics.

Also one day each week we have motion pictures. They may be: *How to Choose a Vocation* or *The Pygmies of Africa*.

In the remedial English classes these pictures are used to supplement the meagre background and to create an interest in magazine, newspaper, and book reading. In the world literature groups, they are correlated with literature as to types and as to continents.

A superior student of one of our rapid reading sections has written an interesting summary of his impressions of ability grouping at Anderson.

The primary value in the establishment of special English courses in high school lies in the fact that students are designated according to their mental abilities rather than by grade classification.

Heretofore all students, regardless of their abilities or deficiencies, were grouped together into one composite class unit. This proved detrimental to all concerned. Students who apparently could not comprehend their studies efficiently were thought to be beyond help. Even if they wished to improve the situation, teachers knew it would be impractical to delay the progress of the entire class on their account. Altho the student might try to better his condition, he would fail for lack of direction. Therefore it was quite common for a poor student to develop an inferiority complex.

Similarly, those members of the classes who were of definitely superior mental stature were retarded—partially by the desire not to be overbearing and appear as a know-it-all and thus bring the ill-feeling of the remainder of the class; and also by the lack of active competition which would be encouraging as well as beneficial.

With these two forces being manifested in class activities, the majority of the group who are of average ability find conditions far from ideal.

To eliminate these difficulties, these special courses for the sub-normal and above average students have been instituted.

Activities in remedial classes are devoted to personalized instruction and the use of special devices and material in an effort to overcome or substantially alter the difficulties experienced by the sub-normal pupil.

There are World Literature and Advanced Reading classes for those students who have shown exceptional proficiency in their English classes. In classes as these, the superior student does not feel that he must withhold his thoughts and ideas for fear of talking over the class's head—for his classmates are his equal. Little of

the work in these classes is compulsory according to an iron-clad schedule. The student follows whatever type of English work he is most interested in. A series of widely diversified tests in English, poetry, literature, mental ability, and social adjustment are given to these pupils in an attempt to ascertain a picture of their characters in order to aid in the formation of a special plan for progressing through school.

The psychological effect of these special courses upon the two extremities of students is the basic and most important value to be ob-

tained from this new system of class designation in high school.

We feel that we are moving in the right direction. The administration, students, and parents are interested in the courses offered. In addition to improving skill in reading, we feel that we are developing a more liberalized and integrated English course, particularly for the non-academic pupil.

ORGANIZATION OF A READING PROGRAM IN THE DETROIT HIGH SCHOOLS

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TEACHERS in the secondary schools all over the country are concerned about the large numbers of pupils who are unable to read effectively on a high school level. The teachers in Detroit are no exception. It was felt that something should be done to provide a continuous reading program which would be designed to help students overcome deficiencies and develop their reading abilities to the highest point possible. The procedure of attack on the reading problems in the high schools of this city was as follows:

First, the responsibility of focusing the attention of the high school staff on reading problems was placed on a newly selected supervisor of reading. This supervisor was regarded as a *consultant* in which capacity she would consult with administrators, department heads and members of the faculty and they in turn consult with her. Since the high school principal occupies a key position in any coordinated attack on educational procedures, a meeting was called of all the senior high school principals of the city. At this meeting the consultant presented several possible methods of attack on the

reading problem and gave a brief overview of some of the basic principles of instruction in any field of teaching. The members of this group were promised all the help and assistance possible, upon request.

After each principal had had an opportunity to talk with the English department head in his building the problem was considered at a meeting of all the English department heads in the high schools. A discussion period followed the presentation of ideas by the consultant. During this discussion it was agreed that no single method of attack was to be used throughout the schools, but rather, a method would be used in each school which would best meet its problems in the light of the administration, unique characteristics, and the needs and resources of the community.² After discovering which problems were common in *every* high school it was agreed to proceed as follows:

Since the responsibility of helping students interpret printed material rests heavily on the shoulders of all teachers, a meeting was held in each building of the entire faculty staff. The consultant presented a talk on

"Modern Methods of Teaching Reading," keeping in mind the fact that the audience was made up of teachers of four different grade levels and of all content subjects. The idea stressed was that every teacher is responsible for teaching the reading skills and techniques essential to the interpretation of *his* subject matter. Some fundamental principles of good teaching were reviewed and illustrated and practical suggestions for applying them were presented. (The essence of the discussion appears in Chapter II of this booklet.) Faculty meetings were followed by a period in which the members of the group participated in the examination and discussion of problems and facts pertaining to the teaching of reading. Requests were made for a series of reading demonstrations to be given in the English departments of the high schools.

Demonstrations in the teaching of reading became, then, the next step in establishing a reading program. The reading consultant was invited to the respective high schools to conduct classes for the express purpose of teaching pupils to read more effectively and to interpret more accurately the printed page. The consultant met with these classes for several consecutive days so that each phase in the teaching of a lesson might be treated, i.e., the introduction to the material, the reading and interpretation of the test, and the follow-up and application of the ideas gained from the reading. To these classes were invited all of the faculty members who wished to attend. Teachers from the English department were released from classes and school duties wherever possible, and it was encouraging to note that faculty members attended from every field in the school. These demonstration classes were conducted in both morn-

ing and afternoon sessions to enable as many teachers as possible to attend.

The teaching of these classes had to be considered from two aspects: teaching remedial reading groups and teaching developmental reading groups. After the reading abilities of the groups were appraised it was learned that some entire classes were unable to read material on grade level, . . . others were reading on grade level but needed help in acquiring new and more refined reading techniques, . . . still others were so heterogeneously grouped as to require both remedial and developmental instruction within the group. The type of instruction referred to as *developmental* was more easily demonstrated because teachers and pupils alike understood the need for it and the method of procedure. Since the reading of high school materials is more difficult than the reading in the elementary school program it is only natural that we should expect to continue to teach students to read by helping to refine and further develop the reading abilities acquired in the elementary grades. The remedial reading instruction, on the other hand, required more careful planning on the part of the consultant and provided such serious reading situations as to awaken concern on the part of all faculty groups represented at the demonstrations. Out of this concern has grown our present reading program in the Detroit high schools.

The reading program consists of two major parts: first, a course in reading instruction offered to the faculty members of any high school, and second, reading instruction for pupils on whatever attainment level they are.

Since many of the teachers in the English department had never taught reading nor taken a course in the

teaching of reading it was apparent that certain phases of the work should be discussed and reviewed so that high school teachers could become familiar with them. The reading consultant planned with the department heads for a series of reading lectures to be given in the respective schools. Last year a course dealing with the following topics was given in eight of the high schools:

Development of reading skills.

Accurate comprehension plus rich interpretation

Methods of word attack (including phonics)

Preparation and development of a reading lesson

Silent and oral reading techniques and skills

Reading in the content fields

Home assignments to meet individual needs

Principles of remedial teaching.

Another angle in solving the reading problem in Detroit is guidance in the teaching of reading to individual teachers. The consultant is invited to classrooms for the purpose of working with interested teachers who are assigned difficult groups. This practice is the most helpful and practical attack since it permits both the teacher and consultant to discuss phases of teaching reading with individual students in mind.

The second major objective, i.e., providing reading instruction for pupils on whatever ability and attainment level they have reached, presented certain difficulties. Attention was placed primarily on the incoming classes. Analysis of the reading attainments and needs of the students is made. The cumulative records received from the elementary schools supplied the data from standardized mental and reading tests. This data proved valuable in planning a reading program for both group and individual improvement. In addition several of the high schools administer reading tests to the reading classes throughout

the semester. Assistance in understanding data on the reading profile is given wherever required and suggestions offered for teaching procedure.

When the students are grouped according to ability and achievement levels (in so far as this is possible) they fall into one of several categories: Remedial groups, made up of students unable to read effectively anything on a high school level; normal groups, reading material on age and grade level; and accelerated groups with broad reading interests and elevated reading tastes. The English department head and staff are responsible for the selection of materials for these various groups. Many different practices are exercised but in general the procedure follows this pattern.

Students whose test results show more than one grade reading deficiency are placed in remedial reading groups and taught by a member of the English department who exhibits an interest in and understanding of reading problems. Because helping with the reading problem is only a small part of guidance the basis for grouping in some of the schools is consideration of the I.Q., the algebra aptitude, general accomplishments, and counselor advice, in addition to the reading score. A definite attempt is made to exclude from these groups poor scholarship due to disciplinary troubles alone. These remedial groups use as a text a basic reader designed to teach reading skills and abilities. Many ninth grade classes are studying in seventh and eighth grade readers. Several classes of low mental ability are reading in a sixth grade book. The teachers of these groups attempt to keep the thinking level high even though the reading level is low. The attitude of the teacher toward the class has a direct bearing on the attitude of the students toward this remedial instruction. They are

happy, well adjusted boys and girls. The remedial reading classes which are definitely *developmental* in nature, are scheduled during the regular school day and, upon completion of the reading work designed for the course, the students receive credit toward graduation. A large number of these remedial reading pupils were able, after one year of intensive reading instruction, to make sufficient improvement to return to their grade group. The practice is still so new that accurate data as to the percentage that return to their normal grade group has not been determined. A serious attempt is made to keep flexibility in class placements. Many people who have visited these classes have remarked about the general atmosphere of the classroom; they do not appear to be slow groups. Under correct guidance and with proper materials they are alert, attentive, happy children, enjoying the privilege of giving intelligent recitations. Their growth in ability to read justifies giving them a school diploma. The next task is the education of the employing public to inquire into what lies behind the diploma before hiring students.

In most of the ninth grade classes made up of students who are reading on age and grade level the emphasis is placed on developmental training in reading. Systematic guidance in improving skills and abilities needed for interpretation is the major responsibility of teachers of these classes. The ninth graders use a ninth grade basic reader.

Most of the accelerated groups take the general literature course. These students experience personal enjoyment and growth through the *study* of literature for appreciation. Reading for entertainment, to discover character and personality traits, to help solve human problems, to discover

relationship of ideas, to analyze the significance and meaning of selections, to experience the thrill of suspense are some of the aims in both of the latter groups mentioned.

Emphasis on the teaching of reading in the high schools was started in Detroit just eighteen months ago. Several of the secondary schools had been carrying out specific reading instruction for many years previous to this. At the present time attention is placed primarily in the ninth grades. In many of the schools students who are having difficulty in tenth grade literature are placed in special groups where the instructors are concerned with the development of reading ability rather than with completing the course. These classes do either of two things: select for study only the simpler parts of the American literature text or study from a basic ninth grade reader. In either case they receive credit for the course toward graduation. In some of the eleventh and twelfth grades this same pattern continues.

The start for a systematic attack on the teaching and maintaining of reading skills in the high schools has been made, but thus far we have done little more than scratch the surface. There are many phases of the work that are not satisfactory; more time is needed for individual instruction; remedial classes should be smaller; student records must be made more easily accessible to teachers; and, along with many other things, a broader testing program should be developed. This year every 8-A student in the city will be given a reading test, the results of which will be sent to the high school he will enter in the fall. With the continued interest and co-operation of the faculty, particularly in the English departments, these students entering senior high school will be intelligently

grouped for more effective instruction. In time it is hoped that all grades in the high school will have a clearly defined reading program designed to help

students interpret efficiently in those subject matter fields which require the skill of reading.

CHAPTER IV. CRITERIA FOR EVALUATING A HIGH SCHOOL READING PROGRAM

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THIS chapter sets out certain criteria for the reading program in a high school. These criteria are set forth for the use of administrators and faculties in actual school situations. They are not the result of carefully refined procedures of scholarship but, rather, are an effort to interpret for school use the major anchor points of experience, experiment, and best thinking in the reading program at the high-school level.

This chapter may be viewed as a road map in that these criteria are both standards for appraisal of the present situation in any one school and signposts for the future. Few, if any, schools will claim to meet all of these criteria.

A school with no definite reading program has no philosophy of reading in the high school; has had no consideration of the reading problem by the faculty; believes that the lower grades complete the teaching of reading; does not recognize the existence of marked differentiation in reading abilities by subjects or grade-levels; believes that

reading is an essentially mechanical process; has no reading specialist or person entrusted with the development of reading abilities; has no remedial reading; does not identify its pupils' reading needs by planned appraisal.

A school with a reading program will be able to show progress toward attainment of the criteria given below. True, variations of size, resources, or other factors will condition the degree to which various schools will meet these criteria. For example, the use of standardized tests to find reading abilities will vary somewhat in accordance with the funds available for such a program. But schools actively interested in a developmental reading program will be able to make some use of their resources to show movement toward these goals.

For each criteria in the various sections of the reading program as described below, a "yes" box and a "no" box are set in front so that the administrator or teacher evaluating the school's program may note the items achieved or not achieved.

PHILOSOPHY OF THE SCHOOL'S READING PROGRAM

Our school has an understood philosophy of a reading program, as a function of operation and not as an incidental by-product.

Yes No 1. Our school believes in a developmental reading program, that is, the student is constantly faced with opportunities for better reading.
 Yes No 2. Our school believes in the superior effectiveness of a systematic program as contrasted with an incidental reading program. (For examples of such systematic programs, see the papers by Miss Horsman and Mr. Wood.)

Yes No 3. Our school believes that, while reading needs and abilities vary from subject to subject, an understanding of the reading problem is needed which cuts across subject-matter lines.

Yes No 4. Our school believes that reading goes far beyond the mechanical processes of perception and recognition and is more closely related to thinking itself.

Yes No 5. Our school believes in a continuous program in grades I through XII and in its own internal program.

Yes No 6. Our school understands that reading is only one of many aids to learning.

Yes No 7. Our school's philosophy of reading has been discussed and studied by the entire faculty.

- a) Which of the above have been attained as part of the philosophy of our school?
- b) Which have not been attained?
- c) Which should be the next goals of attainment?
- d) Which indicated as having been attained should be re-examined to make certain of their attainment?
- e) Which are attained in the philosophy of our school but need to be carried into effective operation?

ORGANIZATION OF THE PROGRAM

Our program is organized.

Yes No 1. Our program is a systematic, on-going, planned one.

Yes No 2. The principal gives it his full support.

Yes No 3. Time of onset of the various parts of the program is important. No one step in a reading program is taken until the school is ready for it and it has been carefully planned.

Yes No 4. Some one person or agency has responsibility for the reading program. In the smaller schools this is a teacher who devotes part time to the program. In other schools this can be a reading committee, a reading coordinator, or a reading coordinator working with a reading committee. The responsibilities of this special person or agency include:

- a) appraisal of the reading problem with regard to personnel available, materials, reading abilities of the students, and methods of appraisal and diagnosis;
- b) leading of the faculty in a study of the program;
- c) gathering of proper records and making them available to the faculty;
- d) accumulation of proper reading materials;
- e) evaluating the outcomes of the reading program;
- f) supervision, and in smaller schools the actual teaching, of the remedial reading classes;
- g) working with the guidance staff; and
- h) making recommendations concerning the program to the principal.

Yes No 5. The guidance staff cooperates in the reading program.

Yes No 6. The entire faculty continually discusses and studies the organization of the reading program.

Yes No 7. The program is organized so that the entire faculty receives assistance from it in meeting reading problems.

Yes No 8. The teachers of English have certain particular and important responsibilities in the development of reading but are not responsible for all such teaching.

Yes No 9. All classroom teachers have some responsibility in the reading program. (See section later in this chapter.)

Yes No 10. The program is coordinated with that of the lower grades.

Yes No 11. Special effort is made to avoid duplication so that various members of the school staff do not perform identical functions.

Yes No 12. Efforts are made to secure adequate financial support for the program.

Yes No 13. Definite time in the school program for instruction in reading is provided.

Yes No 14. The program makes adequate provision for diagnostic, individual studies of pupils.

Yes No 15. There is an adequate reading test program and there is a definite centering of responsibility for the administration of this testing.

Yes No 16. Some provision is made for remedial reading instruction.

Yes No 17. One of the major criteria for the selection of all new textbooks is their relationship to the reading program.

Yes No 18. The library and the librarian work closely with the reading program.

- a) Which of the above have been attained as part of the reading program of our school?
- b) Which have not been attained?
- c) Which should be the next goals of attainment?
- d) Which indicated as having been attained can be performed measurably more effectively by us than at present?

THE SECURING OF DATA

Our program is based upon and uses accurate and proper data.

Yes No 1. Standardized reading tests are administered in our school. An absolute minimum is administration of these tests to all pupils at the time of their entrance to the school and a desirable goal is administration of tests to all pupils each year. These tests are given in the spring so that results will be available for guidance and programming.

Yes No 2. The lower-grade levels from which our entering pupils come send revealing reading data at the time of admission of these pupils.

Yes No 3. Our teachers are able to use teacher-made tests of their own devising for measuring comprehension, speed of reading, vocabulary understanding, etc. The necessity for these teacher-made tests decreases as the standardized-test program increases in scope and effectiveness but there are usually places for teacher-made tests no matter what the standardized-testing program is.

Yes No 4. The data used include the various measures of reading abilities, reading interests, general interests, general intelligence, health and general background.

Yes No 5. These data are placed in our pupils' cumulative records.

Yes No 6. Our school organization sees that these reading data get into the hands of our teachers.

Yes No 7. Our school organization assists teachers in the interpretation of these data.

Yes No 8. Proper evaluative data are secured to measure the outcomes of the reading program.

- a) Which of the above have been attained as part of the program of securing reading data in our school?
- b) Which have not been?
- c) Which should be the next goals of attainment?
- d) Are any data accumulated for the sake of the records alone without being effectively used?
- e) Has our faculty carefully studied the interpretation of these data?
- f) Have these data been used to give a picture of our school's reading problem?

THE CLASSROOM TEACHER AND THE READING PROGRAM

Our classroom teachers enter into the reading program.

Yes No 1. Each teacher has knowledge of the particular ways in which his subject requires ability in and ought to develop ability in reading techniques such as skimming, reading critically, etc., vocabulary, expanding and sustaining reading interests, use of differentiated attack for varying materials, and independence in reading.

Yes No 2. Each teacher uses techniques to develop these abilities.

Yes No 3. Each teacher is aware of the particular difficulties found by the pupils in reading content material in his subject.

Yes No 4. Each teacher attempts to build new reading power of the pupil on the basis of previously learned reading ability.

Yes No 5. Each teacher uses proper reading materials. (See listing of criteria for reading materials in a later section of this chapter.)

Yes No 6. Each teacher is able to use teacher-made tests to appraise reading abilities.

Yes No 7. Each teacher is able to interpret data secured on the reading abilities of the pupils.

Yes No 8. Each teacher is able to recommend pupils to the reading specialists for intensive study and diagnosis of the pupil's reading difficulty.

Yes No 9. Each teacher is familiar with the entire reading program of the school.

- a) Which of the above have been attained as goals of the reading program of our school?
- b) Which have not been attained?
- c) Which should be the next goals of attainment?
- d) Do our faculty receive adequate help and leadership in finding their place in the program?
- e) Which of the above indicated as being attained require constant re-emphasis and support to maintain as desired objectives?

REMEDIAL READING

We provide definite remedial instruction for those pupils retarded in reading ability.

Yes No 1. Our remedial instruction augments the developmental program and, as the developmental program strengthens, the need for remedial instruction decreases but never disappears.

Yes No 2. There is no clear-cut division between retarded and non-retarded pupils, hence, selection of pupils for remedial instruction must represent the best possible balance between the needs for remedial instruction and the resources of the school. (The usual practice is to assign pupils retarded by two years or more to remedial instruction or, if the resources of the school are adequate, more may be assigned.)

Yes No 3. Individual diagnosis is recognized as the starting point of all our remedial procedures.

Yes No 4. The content of instruction in our remedial reading is determined by the reading difficulties of the pupils.

Yes No 5. In administering remedial reading, the high school must usually employ group instruction, the effect of which is not greatly less than individual instruction, in classes of from fifteen to twenty and never larger than twenty-five.

Yes No 6. Our remedial reading classes meet at regular times as a regular class and receive regular credit for that work.

Yes No 7. Membership in our remedial reading classes is assigned and is not on a voluntary basis.

Yes No 8. There are provisions for flexible transfer into and out of these classes so that pupils may be assigned to the class at any time serious reading difficulties appear and may leave the class when the difficulties are ameliorated.

Yes No 9. These classes are taught by a reading specialist, that is, a staff member with special sympathies, abilities and interests who does not treat it as an incidental course in his program.

Yes No 10. Our subject-matter teachers give incidental help of a nature suggested by the reading specialist.

- a) Which of the above have been attained in our remedial reading program?
- b) Which have not been attained?
- c) Which should be our next goals of attainment?
- d) Does our school feel that the maintenance of a remedial reading program solves the problem of reading for the school?
- e) Are all teachers on the alert to use the resources of the remedial reading program in improving the reading abilities of the pupils?

THE READING MATERIALS PROVIDED

The reading materials provided for the pupils in our school are appropriate to a developmental reading program.

Yes No 1. There are reading materials to meet the very particular adolescent needs and interests.

Yes No 2. Wherever possible, including the English classes, the results of experience and experiment are recognized in the encouragement of wide reading. Extensive reading materials are used, including those in literature classes, in contrast with intensively taught materials save where the purposes of the material require intensive reading techniques such as laboratory directions, mathematics problems, etc.

Yes No 3. The reading materials we provide are appropriate to the general objectives of our school.

Yes No 4. The interests of our pupils are recognized in the kind of reading materials provided.

Yes No 5. The reading materials we provide recognize individual differences in reading abilities and tastes.

Yes No 6. The textbooks we use or will select are critically inspected from the standpoint of their adequacy as reading materials in a developmental reading program.

Yes No 7. Our reading materials are used in coordination with other aids to learning.
a) Which of the above have been attained in the character of reading materials provided in our school?
b) Which have not been attained?
c) Which should be the next goals of attainment?
d) Are all the faculty interested in the problem of the provision of proper reading materials?

OUTCOMES

There is an evaluation program to measure outcomes.

Yes No 1. As the reading program continues reading abilities of the pupils are compared with those before the program started.

Yes No 2. The levels of reading tastes and interests are measured and compared at proper times.

Yes No 3. As the reading program continues, achievement in the various subject-matter fields is measured and compared with that before the program started.

Yes No 4. Judgments of our faculty are secured regularly.

Yes No 5. Our faculty are informed of these data.

BOOK REVIEWS

The Humanities and the Common Man, by Norman Foerster. Chapel Hill: The University of North Carolina Press, 1946. Pp. viii+60. \$1.50.

This little book is an ardent and penetrating examination of the assumptions, practices, and objectives of higher education in America. Denunciation and acclamation are blended into one grand plea for the liberal spirit in the programs of universities and colleges. The work is particularly concerned to show how the state university, as an instrument of democracy, can bring the humanities to the common man. The term, humanities, is not identified with certain subject-matter courses, but with all curricular offerings which critically and constructively manifest a humanistic idealism. The ideal of humanism, in opposition to contemporary materialistic and mechanistic conceptions of man, calls for the development of free and significant individualities. Corollary to the cultivation of spiritual and responsible selves will be a new moral insight and faith in the social processes of progress and civilization. Severely attacked are the utilitarian, opportunistic, and vocational bases of university instruction. The lack of historical perspective and universal outlook is also grievously lamented in the overall diatribe against the prevailing naturalistic philosophy of education. The contentions of the essay are frequently supported with quotations from leaders in the history of thought. In spite of his devastating indictment of public higher education, the author does believe that great curricula, faculties, and administrations can produce great and liberal state universities. Keenly interesting are the analysis of science as a humanistic pursuit, the explanation of the current opposition to teachers' colleges, the classificatory evaluation of professors, and the description of an ideal university president. Notwithstanding the author's recognition of effective humanistic forces and ideas in higher education today, he depreciates unduly the liberalizing and humanizing aspects of naturalism in present-day philosophical and social theory. The alarmist "either-or" position, which he takes with respect to the comparative values of humanism and naturalism, is hardly consistent with the inclusive and balanced liberalism extolled in the book. Of doubtful validity also are the extreme dichotomies made by the author between past and present values in cultural history, between individual differences and common knowledge in psychol-

ogy, and between the vocational and non-vocational courses in the curriculum. In spite of the author's insistence that the humanities can be effective in the affairs of practical and mundane existence, it is not made convincingly clear to the reader just how the powers of the liberal spirit are going to transform the forces of matter and mammon into instruments of light. This essay is not a good illustration of logical analysis, but it is a stirring example of hortatory ethical interpretation. Only the high faith in spiritual selfhood, preached almost desperately in this book, can motivate an educative program worthy of the aspirations and potentialities of the common man.

D. LUTHER EVANS
The Ohio State University

The New American College, by John H. Sexson and John W. Harbeson. New York: Harper & Bros., 1946. Pp. xi+312.

The New American College is a book which advocates a four-year junior college composed of grades 11 to 14 inclusive, organized and administered as a single institution. The authors consider the 13th and 14th grades as distinctly secondary in character, that these grades should be a part of the public school system rather than a part of the standard college or university. From the standpoint of the curriculum and the needs of the students, these authorities argue that the 11th and 12th grades of the high school should be united with the two years of junior college (13th and 14th grades) to form a community college in a public school system organized on the 6-4-4 plan.

The book is a splendid account of the development over the past eighteen years of the 6-4-4 plan in Pasadena, California, with special emphasis given to the evolution and development of the last four years' unit in the city's 6-4-4 plan. The philosophy, history, and trends of the junior college movement in the United States are presented and implemented in the Pasadena development of the American College.

The thesis that the junior college belongs to the secondary field has been supported by many quotations from presidents of standard colleges and universities over the period of the last half-century. William Rainy Harper, first president of the University of Chicago, is given the credit for initiating and implementing the theory in the Joliet Township High School, Joliet, Illinois,

where the first public junior college was established in 1902.

The authors describe the two-year junior college when compared with the four-year junior college integrated with the 11th and 12th grades of the high school as a dangling institution within a school system.

The New American College is described as being independent of both the traditional high school and the standard college, and as having sufficient character and individuality to stand on its own feet. Its primary function is to meet the growing needs of the young men and women between the ages of sixteen and twenty-two.

The five major functions of the New American College are: (1) to provide, for all, an adequate foundation in general or liberal education; (2) to provide, for all, satisfactory orientation courses in the major areas of human needs; (3) to provide, for all, a comprehensive orientation in major fields of learning; (4) to carry the university preparatory student to a point where he can enter the junior year; and (5) to provide, for the terminal student, in addition to a reasonable program of general education, a vocational preparation adequate for immediate entrance into the world of business and industry.

All the children of all the people and all the adults in the community will find a place in this type of a people's college. The book indicates approval of the 6-4-4 plan by teachers, pupils, and patrons alike, where the plan has been in operation.

A few of the variable criteria for establishing a junior college are the following: minimum size of a junior college, size of the supporting high school population, taxable wealth behind each junior college, approval by a state board or its equivalent, attitude of the patrons in the district, roads, efficiency of elementary and secondary schools, distance to travel, and nearness to established four year institutions.

The procedures and principles of integrating the 11th and 12th grade with the two year junior college are enumerated and discussed in the book. Each chapter is followed with a list of selected references and a list of research and thought-provoking problems and exercises. It is my opinion that this book is an excellent reference for students in the field of the junior college and could well be used as a basic textbook in a course on the junior college.

FRANK A. JENSEN

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The Improvement of Teacher Education, by the Commission on Teacher

Education. E. T. Evenden (Chairman). Washington, D. C.: American Council on Education, 1946. Pp. xvi+283.

As the sub-title of this book indicates, this is the final report of the Commission on Teacher Education. Six volumes have previously been prepared by staff members of the Commission dealing with specific aspects of the study but this is the summary of the Commission's experience during the six and three-fourths years that it functioned. It includes the experience of the various units that cooperated in the study on either a national or state scale.

This report should be on the immediate reading list of anyone interested in what is taking place in education, particularly as it applies to teacher training. A bitter lesson on the power of education was all too recently demonstrated by the totalitarian powers in the world; it is no longer safe to permit educational policies to develop or change haphazardly, there is a greater need for unity of purpose in educational preparation of teachers—an evaluation of what is important and peculiar to the American philosophy of democracy. This study is timely for it had its beginning in 1938 when the United States was still reeling from its depression experiences, and it was terminated at almost the same moment that the war ended. Thus, it marks the opening of a period in which the further improvement of teacher education is a matter of crucial national importance, when the need for attracting more and better individuals into the profession is urgent for both public school systems and higher institutions.

The study is arranged in five units. The first chapter describes the Commission on Teacher Education and the purpose for its creation. Its function is to promote an interest in means of improving teacher education on a national scale, through a number of statewide studies, and by giving financial and moral support to certain regional and institutional activities. The details of organization, formulation of policy, and method of getting started are included.

Chapter Two traces the development of the study in the colleges and universities that cooperated. These institutions were scattered throughout the nation, were heterogeneous in purpose, and differed widely in their internal organization and control. They were therefore considered reasonably representative of the teacher education scene in the United States. The activities carried on by the institutions were varied, and reflected the type of leadership in the results achieved. It was reasonable to find that the greatest interest was shown in the schools that gave major attention to teacher

training; however, faculty cooperation brought some remarkably fine results in a number of the liberal arts colleges and universities. The different approaches employed by institutions and their area of attack are evaluated in the conclusion of the chapter.

In Chapter Three the results of teacher preparation in the higher institutions are examined in a similar number of school systems. The Commission was impressed with the teacher's need for in-service education, for supplemented and newer knowledge of subject-matter, of children, of techniques. It concluded that conditions surrounding the job influence a teacher's ability to function up to the limit of his powers, that a professional development is best attained by indirection—through group efforts. Some of the means for improving in-service education were study groups and planning committees, summer work shops, the use of outside consultants, and travel and visitation projects.

In Chapters Two and Three, unity was the key word for attaining more effective results in higher institutions and in the school systems—a respect for the individual, for new ideas, for arriving at a common purpose. Chapter Four examines the particular activities of colleges that depended on the working together of persons representing different institutions. The Commission did not intend to promote studies that would bring spectacular results nor did it anticipate that phases of the experiments would become permanent features in the institutions; however, through state education organizations many of these activities will be continued. The use of workshops, consultants in statewide endeavors, clinics, and publications assures a growing interest in bettering teacher education.

The final chapter of the book is a summary of the philosophy of the Commission. It repeats that the purpose of its creation was to encourage teachers to discard the control of tradition and of outworn practices and build up new concepts through experimentation, demonstration, and evaluation. The "summing up" presents leading issues and trends in the education of teachers.

ORVIN T. RICHARDSON
Ball State Teachers College

Child Development and the Curriculum, by Arthur T. Jersild and Associates. New York: Bureau of Publications, Teachers College, Columbia University, 1946. Pp. xi+274.

This book is designed to bring to the attention of teachers and other curriculum workers certain

aspects of the child growth and development movement including much research which otherwise would continue to exist in such form as not to be easily available to them. "Further," it is asserted in the *Foreword*, "major deficiencies in the child development research information needed for curriculum improvement have not been clearly outlined." Therefore, a committee, with Jersild as chairman, chosen from the staff of the Horace Mann-Lincoln Institute of School Experimentation to promote a major research project on the curriculum of childhood and youth education, decided first of all "to make a critical appraisal of child development materials from the standpoint of their contribution to the curriculum." This volume is the outgrowth of that appraisal.

The authors' layout is a simple one: Chapter I presents the child development approach to the curriculum; Chapter II expounds the principle of child development as applied to the curriculum; and the remaining four chapters trace child development successively through infancy, the preschool years, the elementary years, and adolescence. In each instance the treatment of the age in question is based upon the findings of research, as already indicated; inferences are drawn for school people and sometimes for parents as well; and further research is suggested.

If those who wrote this book surmised that many of their readers would not know the scientific jargon of the child growth and development movement and the rest would not need it, their style of expression consistently reflects that assumption. For instance, "ages," such as "carpal," "dental," "physical," "social," "reading," "arithmetic," "organismic," and the like are conspicuously absent although their connotations are constantly present. Instead, such vernacular expressions as "reach first base," "take a poke at," "keep the lid on," "hogged the class time," "shenanigans," "bucking against strong currents," "most sacred of all cows," and the like are sprinkled here and there. Pulled out of context these expressions look extremely out of place in a serious treatment of a technical subject but to no degree do they detract from the soundness or the forcefulness of the volume nor from its readability.

The treatment of "readiness" is, in this reviewer's judgment, a highlight of the book. Furthermore, the practical suggestions and the cautionary pronouncements which are plentifully scattered through it give it a unique value for the "teachers and other curriculum workers" for whom it was written.

HARLAN C. KOCH
University of Michigan

PUBLICATIONS OF THE NORTH CENTRAL ASSOCIATION¹

- I. THE NORTH CENTRAL ASSOCIATION QUARTERLY. Editorial Office, 4012 University High School Building, University of Michigan, Ann Arbor, Michigan
- II. Publications produced or sponsored by Committees or Subcommittees of the Commission on Research and Service
 - A. Book—*General Education in the American High School*, 336 pp., Scott, Foresman, and Company
 - B. Unit Studies in American Problems—a new and challenging type of classroom text materials sponsored by the Committee on Experimental Units for the use of students in high school social studies classes. Published and distributed by Charles E. Merrill Publishing Company, 400 South Front Street, Columbus 15, Ohio.
 1. *Why Taxes? What They Buy for Us*, by EDWARD A. KING
 2. *Civil Service: Our Government as an Employer*, by CHESTER C. CARROthers
 3. *Democracy and Its Competitors*, by EARL S. KALP and ROBERT M. MORGAN
 4. *Housing in the United States*, by ARCHIE W. TROELSTRUP
 5. *Government in Business*, by MARY P. KEOHANE
 6. *Defense of the Western Hemisphere*, by EARL S. KALP and ROBERT M. MORGAN
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 8. *In the Service with Uncle Sam*, by EARL S. KALP
 9. *Latin America and the World Struggle for Freedom*, by RYLAND W. CRARY
 10. *Conservation of Natural Resources*, by CONWAY L. RHYME and ELLSWORTH E. LORY
 - C. Pamphlets produced as outgrowths of committee studies and projects. Distributed from the office of Secretary G. W. Rosenlof, University of Nebraska, Lincoln, Nebraska
 1. Assigning Teachers in the Secondary Schools: A Guide to Better Practice
 2. The Supply of and the Demand for Teachers During the Emergency
 3. A Study of Teacher Certification
 4. Better Colleges, Better Teachers
 5. A Study of In-Service Education
 6. Attacking Reading Problems in Secondary Schools (A new type of publication for teachers. A practical guide for classroom practices)
 - D. Syllabus—*Functional Health Teaching*, by LYNDA M. WEBER. Published and distributed by Ginn and Company
- III. Publications of the Commission on Secondary Schools. Distributed free to members of Commission and member schools
 - A. *Policies, Regulations, and Criteria for the Approval of Secondary Schools*
 - B. *Handbook for State Chairmen and Reviewing Committees*
- IV. Publications Sponsored by the Commission on Colleges and Universities
 - A. *Evaluation of Higher Institutions*, Vols. 1-7. Chicago: University of Chicago Press
 1. *Principles of Accrediting Higher Institutions*, by GEORGE F. ZOOK and M. E. HAGGERTY, 1936. Pp. 202. \$2.00
 2. *The Faculty*, by M. E. HAGGERTY, 1937. Pp. v+218. \$2.00
 3. *The Educational Program*, by M. E. HAGGERTY, 1937. Pp. v+335. \$3.00
 4. *The Library*, by DOUGLAS WAPLES, 1936. Pp. v+86. \$1.00
 5. *Student Personnel Service*, by DONFRED H. GARDNER, 1936. Pp. v+235. \$2.50
 6. *Administration*, by J. D. RUSSELL and F. W. REEVES, 1935. Pp. v+285. \$3.00
 7. *Finance*, by J. D. RUSSELL and F. W. REEVES, 1935. Pp. v+133. \$2.00
 - B. *Revised Manual of Accrediting*, July 1941; \$3.00, including later revised pages. Available from office of the Secretary of the Commission on Colleges and Universities
 - C. *Home Economics in Liberal Arts Colleges*, by CLARA M. BROWN. Published 1943, under joint sponsorship with the American Home Economics Association. \$1.00

¹ Unless otherwise indicated, address communications to the Executive Secretary, North Central Association of Colleges and Secondary Schools, Administration Building, University of Nebraska, Lincoln, Nebraska.

D. Reprints from the NORTH CENTRAL ASSOCIATION QUARTERLY and other pamphlets available in limited numbers at the office of the Secretary of the Commission on Colleges and universities without cost

1. "Statement of Policy Relative to the Accrediting of Higher Institutions, Operation of the Accrediting Procedure," July 1, 1941
2. Annual list of institutions of higher education accredited by the Commission on Colleges and Universities
3. "Periodicals for the College Library," prepared for the Committee on Revision of Standards by DOUGLAS WAPLES
4. "Changes in Enrollments over a Fifteen-year Period in Institutions Accredited for 1936-37 by the North Central Association," by WM. J. HAGGERTY and GEO. A. WORKS
5. "An Analysis of the Library Data of the Higher Institutions of the North Central Association for the Year 1933-34," by WM. J. HAGGERTY and GEO. A. WORKS
6. "Colleges and Students—A Summary of Data Concerning the Number and Distribution of Students and Higher Institutions in the United States for the Period 1921-22 to 1935-36, with Special Reference to the Territory Served by the North Central Association," by WM. J. HAGGERTY and A. J. BRUMBAUGH
7. "Professional Education in Physical Education," by D. OBERTEUFFER
8. "Music Education in Higher Institutions," by ALBERT RIEMENSCHNEIDER
9. "Nursing Education in Higher Institutions of the North Central Association," by LUCILE PETRY
10. "The Institutional Purposes of Seventy-five North Central Colleges," by MELVIN W. HYDE and EMIL LEFFLER
11. "An Analysis of Financial Data of the Higher Institutions of the Association for the Fiscal Year 1939-40," by JOHN OLIVER and A. J. BRUMBAUGH
12. "A Study of Administrative Functions," by MELVIN W. HYDE and EMIL LEFFLER, January 1943 (mimeographed)
13. "The Offerings and Facilities in the Natural Sciences in the Liberal Arts Colleges," by ANTON J. CARLSON
14. "An Analysis of the Library Data of the Higher Institutions for the North Central Association for the Year 1941-42," by D. M. MACKENZIE and A. J. BRUMBAUCH
15. "Developing the Health Education Program," by the Subcommittee on Health and Physical Fitness of the Committee on Fundamentals.

V. Publications jointly sponsored by the North Central Association and other educational organizations or agencies

- A. *A Guide to the Evaluation of Educational Experiences in the Armed Services*. Published in 1944, in cooperation with the American Council on Education and eighteen other accrediting and standardizing educational associations. Looseleaf. Order from G. P. Tuttle, 363 Administration Building (W), Urbana, Illinois. \$3.00
- B. Publications of Cooperative Study of Secondary School Standards. Available from 744 Jackson Place, Washington, D. C.
 1. *Evaluation of Secondary Schools: General Report*, \$3.50.
 2. *Evaluation of Secondary Schools: Supplementary Reprints*, \$1.50
 3. *How to Evaluate a Secondary School* (1940 Edition), cloth \$1.25; paper, \$0.90
 4. *Evaluative Criteria* (1940 Edition), cloth \$1.00; paper \$0.60; set of separate pamphlets \$0.05 each
 5. *Educational Temperatures* (1940 Edition), \$0.50
 6. *Evaluation of a Secondary School Library* (1938 Edition), \$0.35

VI. *A History of the North Central Association*, by CALVIN O. DAVIS, 1945. Pp. xvii+286, \$2.00 plus postage.

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